

## SUBJECT INDEX [Angew. Chem. Int. Ed. 2002, 41]

(R) = Review Article (M) = Minireview (H) = Highlight (E) = Essay (L) = Correspondence (C) = Short Communication



## Ab initio calculations

- A  $C_{2v}$ -Symmetric Barbalane (C) 3429
  - Anion- $\pi$  Interactions: Do They Exist? (C) 3389
  - Bismuthine  $BiH_3$ : Fact or Fiction? High-Resolution Infrared, Millimeter-Wave, and Ab Initio Studies (C) 2550
  - Carbonyltris(trifluoromethyl)borane,  $(CF_3)_3BCO$ , An Unusual Boron Carbonyl (C) 799
  - Do Isopropyl and *tert*-Butyl Cations Form  $\pi$  Complexes with Benzene? (C) 3208
  - Electrocyclization of (*Z*)-1,2,4,6-Heptatetraene and its Heterosubstituted Analogues: Pericyclic or Pseudopericyclic? (L) 1147
  - Fluoroformic Acid Anhydride,  $FC(O)OC(O)F$  (C) 3832
  - Gas-Phase Detection of the Elusive Benzoborirene Molecule (C) 2350
  - Hydrides and Iodides of Gold (H) 2269
  - Lewis Acidity in Transition-Metal-Doped Microporous Aluminophosphates (C) 4677
  - Luminescence Phenomena and Solid-State Structures of Trimethyl- and Triethylgallium (C) 2519
  - Mechanism and Origin of Stereoselectivity in Lewis Acid Catalyzed [2+2] Cycloadditions of Ketenes with Aldehydes (C) 1572
  - Molecular Composition of Liquid Sulfur (C) 3199
  - Paratropic Delocalized Ring Currents in Flattened Cyclooctatetraene Systems with Bond Alternation (C) 1558
  - Reply (L) 1150
  - Structure of Bis(pentafluorophenyl)xenon,  $Xe(C_6F_5)_2$  (C) 448
  - Synthesis, Structure, and Molecular Orbital Calculations of Chromium(III) and Iron(III) Complexes Containing  $\eta^2$ -Pyrazolato Ligands (C) 1591
  - The Adsorption of Cyclopropane and Cyclohexane on Cu(111): An Experimental and Theoretical Investigation on the Nature of the CH-Metal Interaction (C) 1735
- Absorption
- Oligo(phenylenevinylene)s with Terminal Donor-Acceptor Substitution (C) 292
- Acetals
- Indenol Ether Formation from Aryl Alkynes Bearing *ortho*-Acetals: An Unprecedented Rearrangement in Palladium-Catalyzed Carboalkoxylation (C) 4328
- Acetonitrile
- $[Os^{III}(tpy)(Cl)(NCCH_3)(NSAr)]$ : Reversible Reduction of Acetonitrile by  $Os^{III}$ -Sulfilimido Complexes (C) 3870

## Acetylides

- First Synthesis of Optically Pure Propargylic *N*-Hydroxylamines by Direct, Highly Diastereoselective Addition of Terminal Alkynes to Nitrones (C) 3054

## Acid-base complexation

- Self-Assembled Receptors for Enantioselective Recognition of Chiral Carboxylic Acids in a Highly Cooperative Manner (C) 1924

## Acidity

- The First "Naked" Primary Phosphanide Anion  $[ArPH]^-$  (C) 1193

## Actinides

- Unusual Uranyl Tellurites Containing  $[Te_2O_6]^{4-}$  Ions and Three-Dimensional Networks (C) 3426

## Actins

- Actin-Binding Marine Macrolides: Total Synthesis and Biological Importance (R) 4632

## Acylation

- The Uronium/Guanidinium Peptide Coupling Reagents: Finally the True Uronium Salts (C) 441

## Acyl cyanides

- The Total Synthesis of Coleophomones B and C (C) 3276

## Acylolins

- An Efficient Nucleophilic Carbene Catalyst for the Asymmetric Benzoin Condensation (C) 1743

## Addition

- Aluminum-Catalyzed Asymmetric Addition of TMSN to Aromatic and Aliphatic Ketones Promoted by an Easily Accessible and Recyclable Peptide Ligand (C) 1009
- Diastereoselective Asymmetric Nitro-Aldol Reaction of  $\alpha$ -Amino Aldehydes under High Pressure without Catalyst (C) 1031
- Functionalization of Single-Walled Carbon Nanotubes (M) 1853
- Lewis Acid Controlled Regioselective 1,2 and 1,4 Reaction of  $\alpha,\beta$ -Unsaturated Carbonyl Compounds with  $Ti^{IV}$  Enolates Derived from  $\alpha$ -Diazo  $\beta$ -Keto Carbonyl Compounds (C) 2773
- Tetraiodobutatriene: A New Cumulenyl Carbon Iodide (C) 3011

## ADEPT

- Proof of Principle in the Selective Treatment of Cancer by Antibody-Directed Enzyme Prodrug Therapy: The Development of a Highly Potent Prodrug (C) 759

## Adhesion

- Adhesive and Anti-Adhesive Agents in Giant Vesicles (C) 1350

## Adsorption

- Discriminating Chiral Molecules of (*R*)-PPA and (*S*)-PPA in Aqueous Solution by ECSTM (C) 3408
- Preparation and Characterization of a Model Bimetallic Catalyst: Co-Pd Nanoparticles Supported on  $Al_2O_3$  (C) 4073
- Spatially Directed Protein Adsorption by Using a Novel, Nanoscale Surface Template (C) 4303

- The Adsorption of Cyclopropane and Cyclohexane on Cu(111): An Experimental and Theoretical Investigation on the Nature of the CH-Metal Interaction (C) 1735

## Affinity labeling

- Protein Affinity Labeling Mediated by Genetically Encoded Peptide Tags (C) 356

## Aggregation

- A Highly Specific  $Ca^{2+}$ -Ion Sensor: Signaling by Exciton Interaction in a Rigid-Flexible-Rigid Bichromophoric "H" Foldamer (C) 1766
- A Remarkable 14-Nuclear  $Re_8^V Ag_6^I$  Coordination Oligomer Derived from a 2D  $(Re_2^V Ag_2^I)_n$  Coordination Polymer with *D*-Penicillamine (C) 4711
- Arene-Perfluoroarene Interactions as Physical Cross-Links for Hydrogel Formation (C) 1563
- Diffusion-Limited, Aggregation-Based, Mesoscopic Assembly of Roughened Core-Shell Bimetallic Nanoparticles into Fractal Networks at the Air-Water Interface (C) 1040
- Facile Construction of Anionic Silver(I) Aggregates with Embedded Acetylide and Cyanide Ions (C) 4135
- Giant Amphiphiles by Cofactor Reconstitution (C) 4239
- Novel Glycodendrimers Self-Assemble to Nanoparticles which Function as Polyvalent Ligands In Vitro and In Vivo (C) 3195
- Structural Transitions in Clusters (R) 1468
- The "Correctly Folded" State of Proteins: Is It a Metastable State? (E) 257
- $[Zn_4(thf)_4(MeZn)_4(O_3SiR)_4]$  ( $R = 2,6-iPr_2C_6H_3N(SiMe_3)$ ), A Compound Containing Trigonal-Planar, Tetrahedral, and Trigonal-Bipyramidal Metal Atoms: A New Route to Larger Aggregates (C) 1226

## Aglycons

- Enantioselective Synthesis of Kedarcidin Chromophore Aglycon in Differentially Protected Form (C) 1062

## Agostic interactions

- Hexakis(silyl)palladium(vi) or Palladium(II) with  $\eta^2$ -Disilane Ligands? (C) 1956
- Observation of a H-Agostic Bond in a Highly Active Rhenium-Alkylidene Olefin Metathesis Heterogeneous Catalyst by Two-Dimensional Solid-State NMR Spectroscopy (C) 4535

## Alcohols

- A Breathing Ionic Crystal Displaying Selective Binding of Small Alcohols and Nitriles:  $K_3[Cr_3O(OOCH_6(H_2O)_3)][\alpha-SiW_{12}O_{40}] \cdot 16H_2O$  (C) 2814
- A New Protocol for the Enantioselective Synthesis of Methyl-Substituted Alkanols and Their Derivatives through a Hydroalumination/Zirconium-Catalyzed Alkylaluminum Tandem Process (C) 2141
- Arrays of Chemomechanically Patterned Patches of Homogeneous and Mixed

- Monolayers of 1-Alkenes and Alcohols on Single Silicon Surfaces (C) 2353
- A Simple, Reliable, Catalytic Asymmetric Allylation of Ketones (C) 3697
  - Asymmetric Epoxidation of Allyl Alcohol on Organic-Inorganic Hybrid Chiral Catalysts Grafted onto the Surface of Silica and in the Mesopores of MCM-41 (C) 821
  - Biocatalytic Asymmetric Hydrogen Transfer (C) 1014
  - Catalytic Electronic Activation: Indirect "Wittig" Reaction of Alcohols (C) 4740
  - Facile Oxidation of Alcohols to Carbonyl Compounds Using a Tris(2-methylphenyl)bismuth Dichloride-DBU Binary System (C) 3028
  - Fluorous Biphasic Esterification Directed towards Ultimate Atom Efficiency (C) 4117
  - IBX-Mediated Oxidation of Primary Alcohols and Aldehydes To Form Carboxylic Acids (C) 4059
  - Supported Ruthenium Catalyst for the Heterogeneous Oxidation of Alcohols with Molecular Oxygen (C) 4538
- Aldehydes**
- A Highly Regioselective Synthesis of Polysubstituted Naphthalene Derivatives through Gallium Trichloride Catalyzed Alkyne-Aldehyde Coupling (C) 2138
  - A New Method for the Synthesis of Cycloheptenones by  $\text{Rh}^{\text{I}}$ -Catalyzed Intramolecular Hydroacylation of 4,6-Dienals (C) 1218
  - Butane-2,3-diacetals of Glyceraldehyde: A Stable Alternative to Glyceraldehyde Acetonide (C) 3898
  - Carbon-Carbon Double-Bond Formation from the Reaction of Organozinc Reagents with Aldehydes Catalyzed by a Nickel(II) Complex (C) 2757 Corrigendum: 4170
  - Direct Organo-Catalytic Asymmetric  $\alpha$ -Amination of Aldehydes—A Simple Approach to Optically Active  $\alpha$ -Amino Aldehydes,  $\alpha$ -Amino Alcohols, and  $\alpha$ -Amino Acids (C) 1790
  - Enantioselective C-C Bond Formation with Titanium(IV) Alkoxides—an Unusual Alkylation (C) 1361
  - IBX-Mediated Oxidation of Primary Alcohols and Aldehydes To Form Carboxylic Acids (C) 4059
  - $[\text{Ir}_4(\text{CO})_{12}]$ -Catalyzed Coupling Reaction of Imidazoles with Aldehydes in the Presence of a Hydrosilane to Give 2-Substituted Imidazoles (C) 2779
  - Remarkably High 1,5-Diastereoselectivity in a Nickel-Catalyzed Conjugate Addition of  $\text{Me}_2\text{Zn}$  and Carbonyl Compounds to 1, $\omega$ -Dienynes with Through-Space Coupling (C) 2784
  - Sequential Catalytic Asymmetric Allylic Transfer Reaction: Enantioselective and Diastereoselective Construction of Tetrahydropyran Units (C) 161
  - Synthesis of  $\alpha$ -Methylene- $\gamma$ -butyrolactones: Ru-Catalyzed Cyclocarbonylation of Allenyl Aldehydes and Allenyl Ketones (C) 1584
- Aldolase**
- Enzymatic Generation and In Situ Screening of a Dynamic Combinatorial Library of Sialic Acid Analogues (C) 3405
- Aldol reaction**
- Aldolase-Catalyzed Asymmetric Synthesis of Novel Pyranose Synthons as a New Entry to Heterocycles and Epothilones (C) 1404
  - An Efficient Stereoselective Total Synthesis of DL-Sesquicillin, a Glucocorticoid Antagonist (C) 1434
  - Asymmetric Syntheses of Pectenotoxins-4 and -8, Part II: Synthesis of the C20-C30 and C31-C40 Subunits and Fragment Assembly (C) 4573
  - Asymmetric Syntheses of Pectenotoxins-4 and -8, Part I: Synthesis of the C1-C19 Subunit (C) 4569
  - A Synthetic Approach towards the C1-C9 Subunit of Zincophorin (C) 2144
  - Direct Asymmetric Aldol Reactions of Glycine Schiff Base with Aldehydes Catalyzed by Chiral Quaternary Ammonium Salts (C) 4542
  - Facile Construction of *N*-Hydroxybenzazocine: Enantioselective Total Synthesis of (+)-FR900482 (C) 4686
  - Total Synthesis of Leucascandrolide A (C) 4098
  - Unprecedented Regiocontrol Using An Aldolase I Antibody (C) 1012
- Alkali metals**
- A New Approach to Metalated Imido and Amido Tellurophosphoranes (C) 3468
  - Cyclotetrasilene Ion: A Reversible Redox System of Cyclotetrasilene Cation, Radical, and Anion (C) 1575
  - Hexameric Mg-O Stacks with Six THF-Solvated Sodium Amide Appendages: "Super" Variants of Inverse Crown Ethers Generated by Cleavage of THF (C) 2382
  - $\text{Na}_3\text{N}$ —An Original Synthetic Route for a Long Sought After Binary Nitride (H) 1701
  - Synthesis and Structure of  $\text{Na}_3\text{N}$  (C) 1755
  - The First Isolable 1,1-Dilithiogermane and Its Unusual Dimeric Structure—An Effective Reagent for the Preparation of Double-Bonded Derivatives of Group 14 Elements (C) 1598
- Alkaline earth metals**
- A Triple-Decker Sandwich Complex of Barium (C) 2315
  - Chemistry in Ancient Times: The Development of Blue and Purple Pigments (E) 2483
  - Hexameric Mg-O Stacks with Six THF-Solvated Sodium Amide Appendages: "Super" Variants of Inverse Crown Ethers Generated by Cleavage of THF (C) 2382
- Alkaloids**
- A Short Synthesis of ( $\pm$ )-13-Deoxyseratine (C) 1783
  - Evaluation of Diene Hierarchies for Diels-Alder Reactions En Route to Xestocyclamine A: Elaboration of an Ansa Bridge by *B*-Alkyl Suzuki Macrocyclization (C) 1581 Corrigendum: 3085
  - Facile Construction of the Colchicine Skeleton By a Rhodium-Catalyzed Cyclization/Cycloaddition Cascade (C) 1524
  - First De Novo Synthesis of the Bisindole Alkaloid Vinblastine (H) 4217
  - Radical Carboazidation of Alkenes: An Efficient Tool for the Preparation of Pyrrolidinone Derivatives (C) 3460
  - Synthetic Studies on the Sulfur-Cross-Linked Core of Antitumor Marine Alkaloid, Discorhabdins: Total Synthesis of Discorhabdin A (C) 348
  - The Total Synthesis of (-)-Amathaspiramide F (C) 4556
  - Total Synthesis of (-)-Strychnine (C) 1934
  - Total Synthesis of the Amaryllidaceae Alkaloid (+)-Plicamine and Its Unnatural Enantiomer by Using Solid-Supported Reagents and Scavengers in a Multistep Sequence of Reactions (C) 2194
- Alkanes**
- Activation of Alkanes upon Reaction with  $\text{PhI}(\text{OAc})_2-\text{I}_2$  (C) 2556
  - A New Catalyst for the Selective Oxidation of Butane and Propane (C) 858
  - Control of H-C(sp<sup>3</sup>) Bond Cleavage Stoichiometry: Clean Reversible Alkyl Ligand Exchange with Alkane in  $[\text{LPt}(\text{Alk})(\text{H})_2]^+$  ( $\text{L} = [2.1.1]-(2,6)\text{-Pyridinophane}$ ) (C) 4102
  - New Catalyst Systems for the Catalytic Conversion of Methane into Methanol (C) 1745
  - Teaching the Right Reasons: Lessons from the Mistaken Origin of the Rotational Barrier in Ethane (E) 3579
  - The Adsorption of Cyclopropane and Cyclohexane on Cu(111): An Experimental and Theoretical Investigation on the Nature of the CH-Metal Interaction (C) 1735
  - Understanding Zeolite Catalysis: Inverse Shape Selectivity Revised (C) 2499
- Alkenes**
- A Highly Efficient Ruthenium Catalyst for Metathesis Reactions (C) 4038
  - A New Approach to Osmium-Catalyzed Asymmetric Dihydroxylation and Aminohydroxylation of Olefins (C) 472
  - A New Highly Efficient Ruthenium Metathesis Catalyst (C) 2403
  - A New Protocol for the Enantioselective Synthesis of Methyl-Substituted Alkanols and Their Derivatives through a Hydroalumination/Zirconium-Catalyzed Alkylalumination Tandem Process (C) 2141
  - A Novel Polymer-Supported Arene-Ruthenium Complex for Ring-Closing Olefin Metathesis (C) 2602
  - A Pyridylsilyl Group Expands the Scope of Catalytic Intermolecular Pauson-Khand Reactions (C) 3481
  - Arrays of Chemomechanically Patterned Patches of Homogeneous and Mixed Monolayers of 1-Alkenes and Alcohols on Single Silicon Surfaces (C) 2353
  - A Self-Generating, Highly Active, and Recyclable Olefin-Metathesis Catalyst (C) 3835
  - Asymmetric Hydrovinylolation: New Perspectives through Use of Modular Ligand Systems (H) 3775
  - Carbon-Carbon Double-Bond Formation from the Reaction of Organozinc Reagents with Aldehydes Catalyzed by a Nickel(II) Complex (C) 2757 Corrigendum: 4170
  - Catalysts for the Living Insertion Polymerization of Alkenes: Access to New Polyolefin Architectures Using Ziegler-Natta Chemistry (R) 2236
  - Conversion of Hexafluoropropene into 1,1,1-Trifluoropropane by Rhodium-Mediated C-F Activation (C) 2745
  - Dioxygen Activation by a Mononuclear  $\text{Ir}^{\text{III}}$ -Ethene Complex (C) 2135
  - Direct Electrochemical Aziridination of Alkenes under Metal-Free Conditions (H) 3586
  - Enantioselective Alkylative Double Ring Opening of Epoxides: Synthesis of Enantioenriched Unsaturated Diols and

- Amino Alcohols (C) 4313 Corrigendum: 4611
- Ethane and Ethylidene Dicarboxylates from the Ruthenium(II)-Catalyzed "Disproportionative Addition" of Carboxylic Acids to Ethene (C) 3905
  - Formal Vinyl C–H Activation and Allylic Oxidation by Olefin Metathesis (C) 3171
  - Iron-Catalyzed Polyethylene Chain Growth on Zinc: Linear  $\alpha$ -Olefins with a Poisson Distribution (C) 489
  - Ortho* Substituents Direct Regioselective Addition of Tributyltin Hydride to Unsymmetrical Diaryl (or Heteroaryl) Alkynes: An Efficient Route to Stannylated Stilbene Derivatives (C) 1578
  - Stereoselective Synthesis of Tri- and Tetrasubstituted Olefins by Tandem Cyclization Addition Reactions Featuring Vinyl Radicals (C) 3206
  - Total Synthesis of Polycephalin C and Determination of the Absolute Configurations at the 3'',4'' Ring Junction (C) 2786
- Alkylation
- An Efficient Enantioselective Synthesis of (–)-Galanthamine (C) 2795
  - An Efficient One-Pot Enantio- and Diastereoselective Synthesis of Heterocycles (C) 4693
  - A Stereospecific Ruthenium-Catalyzed Allylic Alkylation (C) 1059
  - Benzylic *endo*-Alkylation of Phthalan–Cr(CO)<sub>3</sub> Complexes via Temporary Silylation: An Entry to *trans*-1,3-Disubstituted Dihydroisobenzofurans (C) 2525
  - Conformationally Flexible, Chiral Quaternary Ammonium Bromides for Asymmetric Phase-Transfer Catalysis (C) 1551
  - C<sub>2</sub>-Symmetric Chiral Pentacyclic Guanidine: A Phase-Transfer Catalyst for the Asymmetric Alkylation of *tert*-Butyl Glycinate Schiff Base (C) 2832
  - Enantioselective C–C Bond Formation with Titanium(IV) Alkoxides—an Unusual Alkylation (C) 1361
  - Enhanced Product Selectivity in Continuous N-Methylation of Amino Alcohols over Solid Acid–Base Catalysts with Supercritical Methanol (C) 3476
  - Highly Enantioselective and Practical Cinchona-Derived Phase-Transfer Catalysts for the Synthesis of  $\alpha$ -Amino Acids (C) 3036
  - [Ir<sub>4</sub>(CO)<sub>12</sub>]-Catalyzed Coupling Reaction of Imidazoles with Aldehydes in the Presence of a Hydrosilane to Give 2-Substituted Imidazoles (C) 2779
  - Stereoselective Formation of Quaternary Carbon Centers: Alkylation of  $\alpha,\alpha$ -Disubstituted Amide Enolates (C) 2338
  - The First Highly Efficient Asymmetric Synthesis of  $\alpha$ -Substituted Methyl Sulfonates (C) 109
- Alkyl halides
- A Method for Palladium-Catalyzed Cross-Couplings of Simple Alkyl Chlorides: Suzuki Reactions Catalyzed by [Pd<sub>2</sub>(dba)<sub>3</sub>]/PCy<sub>3</sub> (C) 1945
  - Palladium-Catalyzed Coupling of Alkyl Chlorides and Grignard Reagents (C) 4056
  - The Absolute Configuration of Bromochlorofluoromethane (C) 4544
- N*-Alkylpyridinium salts
- Selective Complexation of *N*-Alkylpyridinium Salts: Recognition of NAD<sup>+</sup> in Water (C) 1355
- Alkyne ligands
- A Reaction Pathway of [Fe(CO)<sub>5</sub>] with Alkynes via Ferrabicyclobutenones (C) 2393
  - Development of a Co-Mediated Rearrangement Reaction (C) 2584
  - Facile Syntheses of Copper(I) Alkynyl Clusters Stabilized by Hexafluoroacetylacetonate (hfac) Ligands: The Structure of [Cu<sub>26</sub>(hfac)<sub>11</sub>(1-pentynyl)<sub>15</sub>] (C) 3038
- Alkynes
- A Highly Efficient and Flexible Synthesis of Substituted Carbazoles by Rhodium-Catalyzed Inter- and Intramolecular Alkyne Cyclotrimerizations (C) 3281
  - A Highly Regioselective Synthesis of Polysubstituted Naphthalene Derivatives through Gallium Trichloride Catalyzed Alkyne–Aldehyde Coupling (C) 2138
  - A New Entry to the Stereoselective Introduction of an Ethynyl Group by a Radical Reaction: Synthesis of the Potential Antimetabolite 2'-Deoxy-2'-C-ethynyluridine (C) 4748
  - A Novel Rhodium-Catalyzed Reduction–Oxidation Process: Reaction of 4-Alkynals with Phenol to Provide *cis*-4-Alkenoates (C) 1607
  - Anti-Markovnikov Hydroamination of Terminal Alkynes (C) 2541
  - A Pyridylsilyl Group Expands the Scope of Catalytic Intermolecular Pauson–Khand Reactions (C) 3481
  - Beltlike Macrocycles with Four and Eight (Cyclopentadienyl)(cyclobutadienyl)cobalt Building Blocks, Formed by Stepwise Oligomerization of 1,6-Cyclodecadiyne Units (C) 1181
  - Cyanoethynylethenes: A Class of Powerful Electron Acceptors for Molecular Scaffolding (C) 3044
  - Enantiopure Double-Helical Alkynyl Cyclophanes (C) 171
  - Enantioselective Synthesis of Propargylamines by Copper-Catalyzed Addition of Alkynes to Enamines (C) 2535
  - Expanded Cubane: Synthesis of a Cage Compound with a C<sub>56</sub> Core by Acetylenic Scaffolding and Gas-Phase Transformations into Fullerenes (C) 4339
  - Highly Efficient Au<sup>I</sup>-Catalyzed Hydration of Alkynes (C) 4563
  - Indenol Ether Formation from Aryl Alkynes Bearing *ortho*-Acetals: An Unprecedented Rearrangement in Palladium-Catalyzed Carboalkoxylation (C) 4328
  - Ortho* Substituents Direct Regioselective Addition of Tributyltin Hydride to Unsymmetrical Diaryl (or Heteroaryl) Alkynes: An Efficient Route to Stannylated Stilbene Derivatives (C) 1578
  - "Polyunsaturated" Cyclophanes (H) 4003
  - Reaction of 2-Butyne with *nido*-[1,2-(Cp\*RuH)<sub>2</sub>B<sub>3</sub>H<sub>7</sub>]: Improved Kinetic Control Leads to Metallacarboranes of Novel Composition and Structure (C) 2578
  - Remarkably High 1,5-Diastereoselectivity in a Nickel-Catalyzed Conjugate Addition of Me<sub>2</sub>Zn and Carbonyl Compounds to 1, $\omega$ -Dienynes with Through-Space Coupling (C) 2784
  - Stereoselective Cyclopolymerization of 1,6-Heptadiynes: Access to Alternating *cis-trans*-1,2-(Cyclopent-1-enylene)vinylenes by Fine-Tuning of Molybdenum Imidoalkylidenes (C) 4044
  - Synthesis and Characterization of a Digermanium Analogue of an Alkyne (C) 1785
  - Synthesis and Structural Characterization of Organometallic Cyclynes: Novel Nanoscale, Carbon-Rich Topologies (C) 2378
  - Tetraiodobutatriene: A New Cumulenecarbon Iodide (C) 3011
  - Total Synthesis of Leucascandrolide A (C) 4098
- Allenes
- An Alkynylboronic Ester Annulation: Development of Synthetic Methods for Application to Diversity-Oriented Organic Synthesis (C) 3272
  - Enantioselective Synthesis of and with Allenes (H) 2933
  - Highly Efficient Catalytic Synthesis of Substituted Allenes Using Indium (C) 3901
  - Oxidative Cyclization–Dimerization Reaction of 2,3-Allenic Acids and 1,2-Allenyl Ketones: An Efficient Synthesis of 4-(3'-Furanyl)butenolide Derivatives (C) 1775
  - Palladium-Catalyzed Regio- and Diastereoselective Tandem Silastannylation/Allyl Addition of Allene Aldehydes and Allene Ketones: Synthesis of *cis* Cyclopentanol and Cyclohexanol (C) 343
  - Pd<sup>0</sup>-Catalyzed Three-Component Tandem Double-Addition–Cyclization Reaction: Stereoselective Synthesis of *cis*-Pyrrolidine Derivatives (C) 4737
  - Synthesis of  $\alpha$ -Methylene- $\gamma$ -butyrolactones: Ru-Catalyzed Cyclocarbonylation of Allenyl Aldehydes and Allenyl Ketones (C) 1584
  - Synthesis of Enantioenriched 5-Alkylidene-2-cyclopentenones from Chiral Allenyl Carbamates: Generation of a Chiral Lithium Allenolate and Allylic Activation for a Conrotatory 4 $\pi$ -Electrocyclization (C) 1532
- Allenylidene ligands
- Generation of Polyunsaturated Cumulene Chains by Unprecedented Insertions of the Ynamine MeC $\equiv$ CNEt<sub>2</sub> in Ruthenium(II) Allenylidene Complexes (C) 3439
- Allenylidenes
- Unprecedented Coupling of Allenylidene and Diynyl Metal Complexes: A Bimetallic Ruthenium System with a C<sub>7</sub> Conjugated Bridge (C) 4513
- Allosterism
- A Dendritic Porphyrin Receptor for C<sub>60</sub> Which Features a Profound Positive Allosteric Effect (C) 2790
- Allotropes
- News about Oxygen (H) 573
- Allylation
- A One-Pot Cross-Metathesis/Allylboration Reaction: A Three-Component Coupling for the Synthesis of Functionalized Homoallylic Alcohols (C) 807
  - A Simple, Reliable, Catalytic Asymmetric Allylation of Ketones (C) 3697
  - C–C Coupling between an  $\eta^3$ -Allyl Ligand and Carbon Nucleophiles in Molybdenum and Tungsten Complexes: Structural Characterization of the Key Intermediate (C) 1427
  - Cobalt-Catalyzed Coupling Reaction of Alkyl Halides with Allylic Grignard Reagents (C) 4137
  - Generation of Organotantalum Reagents and Conjugate Addition to Enones (C) 1389

- Tin-Free Radical-Mediated C–C-Bond Formations with Alkyl Allyl Sulfones as Radical Precursors (C) 3265
- *trans*-Addition of Two Carbon Substituents across a Benzene Double Bond in  $[(\eta^6\text{-Benzene})\text{Mo}(\text{CO})_3]$  (C) 4577
- Allylic alkylation
  - Polymer-Supported  $C_2$ -Symmetric Ligands for Palladium-Catalyzed Asymmetric Allylic Alkylation Reactions (C) 4691
- Allylic compounds
  - An Efficient Enantioselective Synthesis of (–)-Galanthamine (C) 2795
  - A Stereospecific Ruthenium-Catalyzed Allylic Alkylation (C) 1059
  - Asymmetric Epoxidation of Allyl Alcohol on Organic–Inorganic Hybrid Chiral Catalysts Grafted onto the Surface of Silica and in the Mesopores of MCM-41 (C) 821
  - C–C Coupling between an  $\eta^3$ -Allyl Ligand and Carbon Nucleophiles in Molybdenum and Tungsten Complexes: Structural Characterization of the Key Intermediate (C) 1427
  - Designed Ligands as Probes for the Catalytic Binding Mode in Mo-Catalyzed Asymmetric Allylic Alkylation (C) 1929
  - Diastereoselective Synthesis of *trans*-1,2-Dialkylcyclopropanols by the Kulinkovich Hydroxycyclopropanation of Homoallylic Alcohols (C) 2160
  - Palladium-Catalyzed Regio- and Diastereoselective Tandem Silastannylation/Allyl Addition of Allene Aldehydes and Allene Ketones: Synthesis of *cis* Cyclopentanols and Cyclohexanols (C) 343
  - Synthesis and Structure of an Azatrisilacyclobutane and Its Precursor, a Novel Lithium Enamide Having a Tricyclic  $(\text{LiNSiO})_2$  Skeleton (C) 2568
  - The Selective Incorporation of Alkenes into Proteins in *Escherichia coli* (C) 2840
  - Total Synthesis of (–)-Strychnine (C) 1934
- Aluminosilicates
  - Direct Evidence for the Nonrandom Nature of Al Substitution in Zeolite ZSM-5: An Investigation by  $^{27}\text{Al}$  MAS and MQ MAS NMR (C) 469
- Aluminum
  - Aluminum-Catalyzed Asymmetric Addition of TMSCN to Aromatic and Aliphatic Ketones Promoted by an Easily Accessible and Recyclable Peptide Ligand (C) 1009
  - A New Protocol for the Enantioselective Synthesis of Methyl-Substituted Alkanols and Their Derivatives through a Hydroalumination/Zirconium-Catalyzed Alkylalumination Tandem Process (C) 2141
  - Characterization and Photochemistry of the Silane–Aluminum Complex  $\text{Al}\cdot\text{SiH}_3$  and Its Photoproducts  $\text{HAlSiH}_3$  and  $\text{AlSiH}_3$  in a Solid Argon Matrix (C) 1538
  - Computational Prediction of the Phase Transformation of Two As-Synthesized Oxyfluorinated Compounds into the Zeotype CHA Forms (C) 972
  - Formation and Characterization of the First Monoalumoxane,  $\text{LAIO}\cdot\text{B}(\text{C}_6\text{F}_5)_3$  (C) 4294
  - Metalloid Aluminum and Gallium Clusters: Element Modifications on the Molecular Scale? (R) 3532 Corrigendum: 4170
- $[(\text{salen})\text{Al}]$ -Mediated, Controlled and Stereoselective Ring-Opening Polymerization of Lactide in Solution and without Solvent: Synthesis of Highly Isotactic Polylactide Stereocopolymers from Racemic D,L-Lactide (C) 4510
- Structural Characterization of a Cationic Zirconocene Olefin Polymerization Catalyst with its Methylated Boralumoxane Counterion (C) 2166
- The Asymmetric Meerwein–Schmidt–Ponndorf–Verley Reduction of Prochiral Ketones with *i*PrOH Catalyzed by Al Catalysts (C) 1020
- Wet Chemistry Synthesis of  $\beta$ -Nickel Aluminide NiAl (C) 599
- Alumoxane
  - Formation and Characterization of the First Monoalumoxane,  $\text{LAIO}\cdot\text{B}(\text{C}_6\text{F}_5)_3$  (C) 4294
- Amathaspiramides
  - The Total Synthesis of (–)-Amathaspiramide F (C) 4556
- Amides
  - Activation of the Tertiary Carboxamide C–N Bond in Werner Complexes: A Classical Structure–Function Relationship (C) 3386
  - $\text{BuMgNiPr}_2$ : A New Base for Stoichiometric, Position-Selective Deprotonation of Cyclopropane Carboxamides and Other Weak CH Acids (C) 2169
  - Dearomatizing Disrotatory Electrocyclic Ring Closure of Lithiated *N*-Benzoyloxazolidines (C) 1049
  - Enantiopure  $\beta$ -Hydroxy Morpholine Amides from Terminal Epoxides by Carbonylation at 1 atm (C) 4703
  - Enantiospecific Synthesis of the Bridged Pyrrolizidine Core of Asparagine A: Dipolar Cycloadditions of Azomethine Ylides Derived from the Sulfonylation of Vinyllogous Amides. (C) 1778
  - Hexameric Mg–O Stacks with Six THF-Solvated Sodium Amide Appendages: “Super” Variants of Inverse Crown Ethers Generated by Cleavage of THF (C) 2382
  - Noncovalent Chemistry of Nitrous Oxide: Interactions with Secondary *cis* Amides in Solution (C) 3854
  - Stereoselective Formation of Quaternary Carbon Centers: Alkylation of  $\alpha,\alpha$ -Disubstituted Amide Enolates (C) 2338
  - The Amide Protons of an Ytterbium(III) dota Tetraamide Complex Act as Efficient Antennae for Transfer of Magnetization to Bulk Water (C) 1919
  - The Uronium/Guanidinium Peptide Coupling Reagents: Finally the True Uronium Salts (C) 441
  - ZEKE Photoelectron Spectroscopy of the *cis* and *trans* Isomers of Formanilide (C) 166
- Amido ligands
  - 1,1'-Ferrocenedi(amido) Chelate Ligands in Titanium and Zirconium Complexes (H) 956
- Amination
  - Efficient Intramolecular Oxidative Amination of Olefins through Direct Dioxycoupled Palladium Catalysis (C) 164
  - In Situ Enzymatic Screening (ISES): A Tool for Catalyst Discovery and Reaction Development (C) 1603
  - Radical Carboazidation of Alkenes: An Efficient Tool for the Preparation of Pyrrolidinone Derivatives (C) 3460
  - Unparalleled Rates for the Activation of Aryl Chlorides and Bromides: Coupling with Amines and Boronic Acids in Minutes at Room Temperature (C) 4746
- Amines
  - $\alpha$ -Lithiation of 1-Aryl-3,3-dialkyltriazenes and Intramolecular Conversion to Benzylamine and Tetrahydrobenzotriazine Derivatives (C) 484
  - A New Method for the Synthesis of Nonsymmetrical Sulfamides Using Burgess-Type Reagents (C) 3866
  - A 1,3,5-Triaxial Triaminocyclohexane: The Triamine Corresponding to Kemp's Triacid (C) 2581
  - Enantioselective Synthesis of Substituted Pyrrolidines by Dynamic Resolution (C) 3887
  - Highly Selective Transport of Organic Compounds by Using Supported Liquid Membranes Based on Ionic Liquids (C) 2771
- Amino acids
  - A Crystalline  $\beta$ -Hairpin Peptide Nucleated by a Type I' Aib-D-Ala  $\beta$ -Turn: Evidence for Cross-Strand Aromatic Interactions (C) 3863
  - A Highly Enantioselective Receptor for *N*-Protected Glutamate and Anomalous Solvent-Dependent Binding Properties (C) 4233
  - Catalytic Enantioselective Synthesis of  $\beta^2$ -Amino Acids (C) 2197
  - Chiral Transmission between Amino Acids: Chirally Selective Amino Acid Substitution in the Serine Octamer as a Possible Step in Homochirogenesis (C) 1721
  - *cis*-2-Aminocyclopentanecarboxylic Acid Oligomers Adopt a Sheetlike Structure: Switch from Helix to Nonpolar Strand (C) 1718
  - Conformation-Dependent Ionization Energies of L-Phenylalanine (C) 4114
  - Deracemization of  $\alpha$ -Methylbenzylamine Using an Enzyme Obtained by In Vitro Evolution (C) 3177
  - Direct Asymmetric Aldol Reactions of Glycine Schiff Base with Aldehydes Catalyzed by Chiral Quaternary Ammonium Salts (C) 4542
  - Direct Organo-Catalytic Asymmetric  $\alpha$ -Amination of Aldehydes—A Simple Approach to Optically Active  $\alpha$ -Amino Aldehydes,  $\alpha$ -Amino Alcohols, and  $\alpha$ -Amino Acids (C) 1790
  - Efficient, Racemization-Free Peptide Coupling of *N*-Alkyl Amino Acids by Using Amino Acid Chlorides Generated In Situ—Total Syntheses of the Cyclopeptides Cyclosporin O and Omphalotin A (H) 4661
  - Global Replacement of Tryptophan with Aminotryptophans Generates Non-Invasive Protein-Based Optical pH Sensors (C) 4066
  - Heteropolymolybdates of  $\text{As}^{\text{III}}$ ,  $\text{Sb}^{\text{III}}$ ,  $\text{Bi}^{\text{III}}$ ,  $\text{Se}^{\text{IV}}$ , and  $\text{Te}^{\text{IV}}$  Functionalized by Amino Acids (C) 4070
  - Highly Enantioselective and Practical Cinchona-Derived Phase-Transfer Catalysts for the Synthesis of  $\alpha$ -Amino Acids (C) 3036
  - In Situ Enzymatic Screening (ISES): A Tool for Catalyst Discovery and Reaction Development (C) 1603
  - Modular Building Blocks for Amino Acid Recognition in Peptides (C) 1751
  - New Methods for Proteomic Research: Preparation of Proteins with N-Terminal Cysteines for Labeling and Conjugation (C) 2171

- Palladium-Catalyzed  $\alpha$ -Arylation of Esters: Ideal New Methodology for Discovery Chemistry (H) 953
- Per(6-amino-2-*O*-carboxymethyl-6-deoxy-3-*O*-methyl)- $\alpha$ -cyclodextrin: Helical Self-Assembly of a Polyionic Amino Acid into Nanotubes (C) 1715
- Selective  $\alpha$ -Carbon Hydroxylation of Glycine in Nickel(II)–Cyclotetrapeptide Complexes by Oxygen (C) 1879
- Stereoselective Synthesis of Boc-Protected *cis* and *trans*-4-Trifluoromethylprolines by Asymmetric Hydrogenation Reactions (C) 1600
- The Selective Incorporation of Alkenes into Proteins in *Escherichia coli* (C) 2840
- The Structure of Neutral Proline (C) 4673
- The Uronium/Guanidinium Peptide Coupling Reagents: Finally the True Uronium Salts (C) 441
- Trifluoroacetophenone Derivatives as Amino Acid Selective Ionophores for the Potentiometric Determination of Phenylalanine (C) 3005
- Use of Enzymes Deactivated by Site-Directed Mutagenesis for the Preparation of Enantioselective Membranes (C) 2960
- Water-Soluble Stimuli-Responsive Vesicles from Peptide-Based Diblock Copolymers (C) 1339
- Amino alcohols**
  - A Novel Regio- and Stereoselective Synthesis of Sulfamides from 1,2-Diols Using Burgess and Related Reagents: A Facile Entry into  $\beta$ -Amino Alcohols (C) 834
  - Diastereoselective Asymmetric Nitro-Aldol Reaction of  $\alpha$ -Amino Aldehydes under High Pressure without Catalyst (C) 1031
  - Direct Organo-Catalytic Asymmetric  $\alpha$ -Amination of Aldehydes—A Simple Approach to Optically Active  $\alpha$ -Amino Aldehydes,  $\alpha$ -Amino Alcohols, and  $\alpha$ -Amino Acids (C) 1790
  - Enantioselective Alkylative Double Ring Opening of Epoxides: Synthesis of Enantioenriched Unsaturated Diols and Amino Alcohols (C) 4313 Corrigendum: 4611
  - Enhanced Product Selectivity in Continuous N-Methylation of Amino Alcohols over Solid Acid–Base Catalysts with Supercritical Methanol (C) 3476
  - Samarium Diodide-Induced Reductive Cross-Coupling of Nitrones with Aldehydes and Ketones (C) 1772
- Amino aldehydes**
  - Direct Organo-Catalytic Asymmetric  $\alpha$ -Amination of Aldehydes—A Simple Approach to Optically Active  $\alpha$ -Amino Aldehydes,  $\alpha$ -Amino Alcohols, and  $\alpha$ -Amino Acids (C) 1790
- Amino alkenes**
  - Exceptional Rate Enhancements and Improved Diastereoselectivities through Chelating Diamide Coordination in Intramolecular Alkene Hydroaminations Catalyzed by Yttrium and Neodymium Amido Complexes (C) 3645 Corrigendum: 4170
- Aminohydroxylation**
  - A New Approach to Osmium-Catalyzed Asymmetric Dihydroxylation and Aminohydroxylation of Olefins (C) 472
- Ammonia**
  - Cesiumauride Ammonia (1/1), CsAu·NH<sub>3</sub>: A Crystalline Analogue to Alkali Metals Dissolved in Ammonia? (C) 120
- Amorphous materials**
  - Boron Chemistry Lights the Way: Optical Properties of Molecular and Polymeric Systems (M) 2927
  - Real-Time Photoacoustic Parallel Detection of Products from Catalyst Libraries (C) 2966
  - Selective Direct Synthesis of Organofunctionalized Dialkylgermanes from Solvochemically Activated Germanium (C) 1178
- Amphiphiles**
  - A Thermotropic Mesophase Comprised of Closed Micellar Aggregates of the Normal Type (C) 628
  - Enantiomeric Self-Recognition of a Facial Amphiphile Triggered by [[Pd(ONO<sub>2</sub>)(en)]<sub>2</sub>] (C) 1905
  - From Self-Organizing Polymers to Nanohybrid and Biomaterials (R) 688
  - Giant Amphiphiles by Cofactor Reconstitution (C) 4239
  - Micelle Formation and Antimicrobial Activity of Cholic Acid Derivatives with Three Permanent Ionic Head Groups (C) 4275
  - Molecular Dynamic Computer Simulations of Phase Behavior of Non-Ionic Surfactants (C) 983
  - Monodisperse Surface Micelles of Non-polar Amphiphiles in Langmuir Monolayers (C) 4331
  - Novel Liquid-Crystalline Phases with Layerlike Organization (C) 4031
- Amyloidosis**
  - The “Correctly Folded” State of Proteins: Is It a Metastable State? (E) 257
- Amylose**
  - Starched Carbon Nanotubes (C) 2508
- Analytical methods**
  - A Mass Spectrometry Based Direct-Binding Assay for Screening Binding Partners of Proteins (C) 646
  - High-Throughput Multilevel Performance Screening of Advanced Materials (C) 4230
  - How to Make a DNA Chip (R) 1276
  - Kinetics of a Reversible Covalent-Bond-Forming Reaction Observed at the Single-Molecule Level (C) 3707
- Angiogenesis**
  - Natural Product Derived Receptor Tyrosine Kinase Inhibitors: Identification of IGF1R, Tie-2, and VEGFR-3 Inhibitors (C) 1174
- Anhydrides**
  - Fluoroformic Acid Anhydride, FC(O)O-C(O)F (C) 3832
  - Highly Enantioselective Desymmetrization of Anhydrides by Carbon Nucleophiles: Reactions of Grignard Reagents in the Presence of (–)-Sparteine (C) 1057
- Anions**
  - Anion– $\pi$  Interactions: Do They Exist? (C) 3389
  - Cyclo[8]pyrrole: A Simple-to-Make Expanded Porphyrin with No Meso Bridges (C) 1422
  - Molecular Encapsulation of Anions in a Neutral Receptor (C) 3423
  - Naked-Eye Detection of Phosphate Ions in Water at Physiological pH: A Remarkably Selective and Easy-To-Assemble Colorimetric Phosphate-Sensing Probe (C) 3809
  - Parallels in Cation and Anion Coordination: A New Class of Cascade Complexes (C) 2335
  - [(PPh<sub>3</sub>)Ag(HCB<sub>11</sub>Me<sub>11</sub>)]: A Complex with Intermolecular Ag···H<sub>3</sub>C Interactions (C) 3694
- Synthesis of a Strapped Calix[4]pyrrole: Structure and Anion Binding Properties (C) 1757
- The First “Naked” Primary Phosphanide Anion [ArPH]<sup>–</sup> (C) 1193
- Annulation**
  - A Boronic Ester Annulation Strategy for Diversity-Oriented Organic Synthesis (C) 152
  - An Alkynylboronic Ester Annulation: Development of Synthetic Methods for Application to Diversity-Oriented Organic Synthesis (C) 3272
  - Evaluation of Diene Hierarchies for Diels–Alder Reactions En Route to Xestocyclamine A: Elaboration of an Ansa Bridge by *B*-Alkyl Suzuki Macrocyclization (C) 1581 Corrigendum: 3085
  - Sequential Base-Promoted Annulation/Palladium-Catalyzed Domino 1,5-Enyne Arylation and Vinylolation of  $\alpha$ -Propargylaminohydrazones (C) 1400
- Annulenes**
  - Paratropic Delocalized Ring Currents in Flattened Cyclooctatetraene Systems with Bond Alternation (C) 1558
- Antiaromaticity**
  - Comment on the X-Ray Structure of Pentamethylcyclopentadienyl Cation (L) 2276
  - Statement (L) 2278
  - The Stable Pentamethylcyclopentadienyl Cation (C) 1429 Corrigendum: 1642
  - The Stable Pentamethylcyclopentadienyl Cation Remains Unknown (L) 2275
  - Total Syntheses and Structures of Angular [6]- and [7]Phenylene: The First Helical Phenylenes (Heliphenes) (C) 3223
  - Total Syntheses of Angular [7]-, [8]-, and [9]Phenylene by Triple Cobalt-Catalyzed Cycloisomerization: Remarkably Flexible Heliphenes (C) 3227
- Antibiotics**
  - A Biomimetically Inspired Synthesis of the Dehydropiperidine Domain of Thio-strepton (C) 1941
  - A Stereoselective Route to Guanacastepene A through a Surprising Epoxidation (C) 2188
  - Enantioselective Synthesis of Kedarcidin Chromophore Aglycon in Differentially Protected Form (C) 1062
  - Enantioselective Total Synthesis of Angucyclinone-Type Antibiotics Rubiginones A<sub>2</sub> and C<sub>2</sub> (C) 2755
  - Fluorobalhimycin—A New Chapter in Glycopeptide Antibiotic Research (C) 3383
  - Micelle Formation and Antimicrobial Activity of Cholic Acid Derivatives with Three Permanent Ionic Head Groups (C) 4275
  - Stereocontrolled Synthesis of the Quinaldic Acid Macrocyclic System of Thio-strepton (C) 1937
  - Synthesis of the Functionalized Tricyclic Skeleton of Guanacastepene A: A Tandem Epoxide-Opening  $\beta$ -Elimination/Knoevenagel Cyclization (C) 2185
  - Tetrafunctional Photoaffinity Labels Based on Nakanishi's *m*-Nitroalkoxy-Substituted Phenyltrifluoromethylidiazirine (C) 2293
- Antibodies**
  - An Antibody that Reconstitutes the “Base-On” Form of B<sub>12</sub> Coenzymes (C) 3613
  - Detection of Individual p53-Autoantibodies by Using Quenched Peptide-Based Molecular Probes (C) 4769

- Fabricating Microarrays of Functional Proteins Using Affinity Contact Printing (C) 2320
- High-Throughput Screening of Enantioselective Catalysts by Immunoassay (C) 124
- Antifungal agents
  - Total Synthesis of Ambruticin (C) 176
- Antigens
  - Fabricating Microarrays of Functional Proteins Using Affinity Contact Printing (C) 2320
  - Reactivity-Based One-Pot Synthesis of a Lewis Y Carbohydrate Hapten: A Colon-Rectal Cancer Antigen Determinant (C) 4087
- Antimony
  - Solvothermal Synthesis, Crystal Structure, Thermal Stability, and Mössbauer Spectroscopic Investigation of the Mixed-Valent Thioantimonate(III,V) [Ni(dien)<sub>2</sub>]<sub>2</sub>Sb<sub>4</sub>S<sub>9</sub> (C) 4487
- Antisemitism
  - Chemists and Biochemists during the National Socialist Era (R) 1310
- Antisense agents
  - Bispyrene-Conjugated 2'-O-Methyloligonucleotide as a Highly Specific RNA-Recognition Probe (C) 3648
  - Direct Observation of a Cytosine Analogue that Forms Five Hydrogen Bonds to Guanosine: Guanidino G-Clamp (C) 115
- Antisense oligonucleotides
  - An Electrochemical Probe of DNA Stacking in an Antisense Oligonucleotide Containing a C3'-endo-Locked Sugar (C) 3402
- Antitumor agents
  - Actin-Binding Marine Macrolides: Total Synthesis and Biological Importance (R) 4632
  - Akashins A, B, and C: Novel Chlorinated Indigoglycosides from *Streptomyces* sp. GW 48/1497 (C) 597
  - Concise Enantioselective Synthesis of (+)-FR66979 and (+)-FR900482: Dime-thyldioxirane-Mediated Construction of the Hydroxylamine Hemiketal (C) 4683
  - Facile Construction of *N*-Hydroxybenzazocine: Enantioselective Total Synthesis of (+)-FR900482 (C) 4686
  - Natural Product Derived Receptor Tyrosine Kinase Inhibitors: Identification of IGF1R, Tie-2, and VEGFR-3 Inhibitors (C) 1174
  - Oligomerization of p53 upon Cooperative DNA Binding: Towards a Structural Understanding of p53 Function (H) 1702
  - Proof of Principle in the Selective Treatment of Cancer by Antibody-Directed Enzyme Prodrug Therapy: The Development of a Highly Potent Prodrug (C) 759
  - Reactivity-Based One-Pot Synthesis of a Lewis Y Carbohydrate Hapten: A Colon-Rectal Cancer Antigen Determinant (C) 4087
  - Stereoselective Total Synthesis of Muco-cin, an Antitumor Agent (C) 4751
  - The Diazonamides: The Plot Thickens (H) 2489
  - Total Synthesis of Diazonamide A (C) 3495
  - Total Synthesis of (±)-FR66979 (C) 4688
  - Total Synthesis of (±)-Otteliones A and B (C) 2396
- Anti-van't Hoff/Le Bel compounds
  - Synthesis of *cis,cis,cis*-[5.5.5]-1-Aza-fenestrane (C) 4122
- Antiviral agents
  - Remodeling of gp41-C34 Peptide Leads to Highly Effective Inhibitors of the Fusion of HIV-1 with Target Cells (C) 2937
- Apicophilicity
  - A Method for Determining the Difference in Relative Apicophilicity of Carbon-Containing Substituents of 10-P-5 Phosphoranes (C) 4718
- Apoferitin
  - Compartmentalization of a Gadolinium Complex in the Apoferitin Cavity: A Route To Obtain High Relaxivity Contrast Agents for Magnetic Resonance Imaging (C) 1017
- Apoptosis
  - Solid-Phase Synthesis and Biological Evaluation of a Peptidocinnamin E Library (C) 3616
- Arene ligands
  - [(arene)Rh(cod)]<sup>+</sup> Complexes as Catalysts for [5 + 2] Cycloaddition Reactions (C) 4550
  - Bis(1,2,3,4-η<sup>4</sup>-anthracene)cobaltate(1-) (C) 1211
  - Diastereoselective Lithiation of (η<sup>6</sup>-Arene)dicarbonyltriphenylphosphane Chromium(o) Oxazoline Complexes—Direct Preparation of Enantiopure Complexes Having Planar Chiral Fragments of Either Configuration (C) 3884
  - The Inhibiting Influence of Aromatic Solvents on the Activity of Asymmetric Hydrogenations (C) 777
  - *trans*-Addition of Two Carbon Substituents across a Benzene Double Bond in [(η<sup>6</sup>-Benzene)Mo(CO)<sub>3</sub>] (C) 4577
- Arenes
  - A Stoichiometric Aromatic C–H Borylation Catalyzed by Iridium(II)/2,2'-Bipyridine Complexes at Room Temperature (C) 3056
  - Benzylic *endo*-Alkylation of Phthalan–Cr(CO)<sub>3</sub> Complexes via Temporary Silylation: An Entry to *trans*-1,3-Disubstituted Dihydroisobenzofurans (C) 2525
  - Do Isopropyl and *tert*-Butyl Cations Form  $\pi$  Complexes with Benzene? (C) 3208
  - How Attractive is Bromine as a Protecting Group in Aromatic Chemistry? (H) 1699
  - Pd-Catalyzed Decarbonylative Olefination of Aryl Esters: Towards a Waste-Free Heck Reaction (C) 1237
  - "Polyunsaturated" Cyclophanes (H) 4003
- Arenium ions
  - Protonated Benzene: IR Spectrum and Structure of C<sub>6</sub>H<sub>7</sub><sup>+</sup> (C) 3628
- Aromaticity
  - An Azulene Analogue of the Tripyranes and Carba porphyrinoids Therefrom (C) 1371
  - A Planar, Aromatic *bicyclo*-Tetraborane(4) (C) 1529
  - Aromatic Boranes with Planar-Tetra-coordinate Boron Atoms and Very Short B–B Distances (C) 1526
  - Cyclo[8]pyrrole: A Simple-to-Make Expanded Porphyrin with No Meso Bridges (C) 1422
  - Electrocyclization of (Z)-1,2,4,6-Hepta-tetraene and its Heterosubstituted Analogues: Pericyclic or Pseudopericyclic? (L) 1147
  - Gas-Phase Detection of the Elusive Benzoborirene Molecule (C) 2350
  - Metallabenzenes and Valence Isomers. Synthesis and Characterization of a Plat-inabenzene (C) 3470
- Paratropic Delocalized Ring Currents in Flattened Cyclooctatetraene Systems with Bond Alternation (C) 1558
- Reply (L) 1150
- Spherical Homoaromaticity (C) 4309
- Statement (L) 2278
- The First Isolable 4-Silatriafulvene (C) 1402
- The Stable Pentamethylcyclopentadienyl Cation (C) 1429 Corrigendum: 1642
- Triboracyclopropanes: Two-Electron Double Aromatic Compounds with Very Short B–B Distances (C) 3380
- Aromatic substitution
  - Do Isopropyl and *tert*-Butyl Cations Form  $\pi$  Complexes with Benzene? (C) 3208
  - Protonated Benzene: IR Spectrum and Structure of C<sub>6</sub>H<sub>7</sub><sup>+</sup> (C) 3628
- Arsenic
  - As[P(NMe<sub>2</sub>)<sub>3</sub>]<sub>2</sub><sup>+</sup> as Simultaneous As<sup>I</sup> and P<sup>I</sup> Source: Synthesis and Density Function Calculations of Planar Tetracoordinate Arsonium and Phosphonium Ions (C) 450
  - Cubane with a Handle: [(In<sub>3</sub>-As<sub>2</sub>Nb)–As]<sup>7-</sup> in Cs<sub>3</sub>NbIn<sub>3</sub>As<sub>5</sub> (C) 1232
  - Kinetics of a Reversible Covalent-Bond-Forming Reaction Observed at the Single-Molecule Level (C) 3707
  - [(Li(thf)<sub>3</sub>)<sub>2</sub>Ga<sub>2</sub>{As(SiPr<sub>3</sub>)<sub>4</sub>}]<sub>4</sub>—A Compound with Gallium–Arsenic Double Bonds (C) 2095
- Aryl–aryl coupling
  - The "Aryne" Route to Biaryls Featuring Uncommon Substituent Patterns (C) 4272
- Arylation
  - Generation of Reactivity from Typically Stable Ligands: C–C Bond-Forming Reductive Elimination from Aryl Palladium(II) Complexes of Malonate Anions (C) 4289
  - Palladium-Catalyzed  $\alpha$ -Arylation of Esters: Ideal New Methodology for Discovery Chemistry (H) 953
- Aryl ketones
  - Palladium-Catalyzed Asymmetric Allylic Alkylation of  $\alpha$ -Aryl Ketones (C) 3492
- Aryl substituents
  - Synthesis and Characterization of the Neutral "Digallene" Ar'GaGaAr' and Its Reduction to Na<sub>2</sub>Ar'GaGaAr' (Ar' = 2,6-Dipp<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, Dipp = 2,6-*i*Pr<sub>2</sub>C<sub>6</sub>H<sub>3</sub>) (C) 2842
- Arynes
  - Addition of Ureas to Arynes: Straight-forward Synthesis of Benzodiazepine and Benzodiazocine Derivatives (C) 3247
  - The "Aryne" Route to Biaryls Featuring Uncommon Substituent Patterns (C) 4272
- As ligands
  - A New Type of Chainlike Tetranuclear Rhodium Complexes with PR<sub>3</sub> and AsMe<sub>3</sub> as Bridging Ligands (C) 2301
  - Two-Step, Stereoselective Hydrazidoarylation of 1,3-Cyclopentadiene (C) 3375
- Asymmetric catalysis
  - A Chiral 1,2-Bisphospholane Ligand with a Novel Structural Motif: Applications in Highly Enantioselective Rh-Catalyzed Hydrogenations (C) 1612
  - A Dinuclear Zn Catalyst for the Asymmetric Nitroaldol (Henry) Reaction (C) 861
  - A Highly Enantioselective and General Conjugate Addition of Thiols to Cyclic Enones with an Organic Catalyst (C) 338

- Aluminum-Catalyzed Asymmetric Addition of TMSCN to Aromatic and Aliphatic Ketones Promoted by an Easily Accessible and Recyclable Peptide Ligand (C) 1009
- A Modular Approach to  $C_1$  and  $C_3$  Chiral N-Tripodal Ligands for Asymmetric Catalysis (C) 3473
- An Asymmetric Cyanation Reaction and Sequential Asymmetric Cyanation–Nitroaldol Reaction Using a  $[YLi_3\{tris(bi-naphthoxide)\}]$  Single Catalyst Component: Catalyst Tuning with Achiral Additives (C) 3636
- An Efficient and Highly Enantio- and Diastereoselective Cyclopropanation of Olefins Catalyzed by Schiff-Base Ruthenium(II) Complexes (C) 2953
- An Efficient Nucleophilic Carbene Catalyst for the Asymmetric Benzoin Condensation (C) 1743
- A New Protocol for the Enantioselective Synthesis of Methyl-Substituted Alkanols and Their Derivatives through a Hydroalumination/Zirconium-Catalyzed Alkylalumination Tandem Process (C) 2141
- A New Synthesis Route to Enantiomerically Pure Jasmonoids (C) 4054
- Application of a New Family of P,N Ligands to the Highly Enantioselective Hydrosilylation of Aryl Alkyl and Dialkyl Ketones (C) 3892
- A Practical Oligomeric  $[(salen)Co]$  Catalyst for Asymmetric Epoxide Ring-Opening Reactions (C) 1374
- A Simple, Reliable, Catalytic Asymmetric Allylation of Ketones (C) 3697
- Asymmetric Baeyer–Villiger Reaction with Hydrogen Peroxide Catalyzed by a Novel Planar-Chiral Bisflavin (C) 2366
- “Asymmetric” Catalysis by Lanthanide Complexes (R) 3554
- Asymmetric Catalysis: Science and Opportunities (Nobel Lecture) (R) 2008
- Asymmetric Epoxidation of Allyl Alcohol on Organic–Inorganic Hybrid Chiral Catalysts Grafted onto the Surface of Silica and in the Mesopores of MCM-41 (C) 821
- Asymmetric Hydrogenations (Nobel Lecture) (R) 1998
- Asymmetric Hydrovinylation: New Perspectives through Use of Modular Ligand Systems (H) 3775
- Catalytic, Asymmetric Baylis–Hillman Reaction of Imines with Methyl Vinyl Ketone and Methyl Acrylate (C) 4507
- Catalytic Asymmetric 1,3-Dipolar Cycloaddition Reactions of Azomethine Ylides—A Simple Approach to Optically Active Highly Functionalized Proline Derivatives (C) 4236
- Catalytic Enantioselective Diels–Alder Reactions: Methods, Mechanistic Fundamentals, Pathways, and Applications (R) 1650
- Catalytic, Enantioselective Syntheses of  $\beta$ -Lactones—Versatile Synthetic Building Blocks in Organic Chemistry (H) 744
- Catalytic Enantioselective Synthesis of  $\beta^2$ -Amino Acids (C) 2197
- Conformationally Flexible, Chiral Quaternary Ammonium Bromides for Asymmetric Phase-Transfer Catalysis (C) 1551
- Designed Ligands as Probes for the Catalytic Binding Mode in Mo-Catalyzed Asymmetric Allylic Alkylation (C) 1929
- Direct Organo-Catalytic Asymmetric  $\alpha$ -Amination of Aldehydes—A Simple Approach to Optically Active  $\alpha$ -Amino Aldehydes,  $\alpha$ -Amino Alcohols, and  $\alpha$ -Amino Acids (C) 1790
- Enantioselective Synthesis of and with Allenes (H) 2933
- Helical Chiral Polymers without Additional Stereogenic Units: A New Class of Ligands in Asymmetric Catalysis (C) 1614
- Heterogeneous Pd-Catalyzed Asymmetric Allylic Substitution Using Resin-Supported Trost-Type Bisphosphane Ligands (C) 3852
- Highly Diastereo- and Enantioselective Intramolecular Amidation of Saturated C–H Bonds Catalyzed by Ruthenium Porphyrins (C) 3465
- Highly Enantioselective Inverse-Electron-Demand Hetero-Diels–Alder Reactions of  $\alpha,\beta$ -Unsaturated Aldehydes (C) 3059
- Highly Enantioselective Preparation of Multifunctionalized Propargylic Building Blocks (C) 634
- High-Throughput Screening of Enantioselective Catalysts by Immunoassay (C) 124
- Modular Ligands for Asymmetric Synthesis: Enantioselective Catalytic  $Cu^{II}$ -Mediated Condensation Reaction of Ethyl Pyruvate with Danishefsky's Diene (C) 625
- Mono- and Bidentate Phosphinanes—New Chiral Ligands and Their Application in Catalytic Asymmetric Hydrogenations (C) 612
- Monodentate Chiral Spiro Phosphoramidites: Efficient Ligands for Rhodium-Catalyzed Enantioselective Hydrogenation of Enamides (C) 2348
- New Methods for the High-Throughput Screening of Enantioselective Catalysts and Biocatalysts (H) 1335
- Novel Achiral Biphenol-Derived Diastereomeric Oxovanadium(IV) Complexes for Highly Enantioselective Oxidative Coupling of 2-Naphthols (C) 4532
- Novel 1,4-Diphosphanes with Imidazolidin-2-one Backbones as Chiral Ligands: Highly Enantioselective Rh-Catalyzed Hydrogenation of Enamides (C) 847
- Palladium-Catalyzed Asymmetric Allylic Alkylation of  $\alpha$ -Aryl Ketones (C) 3492
- Phosphorus Heterocycles: From Laboratory Curiosities to Ligands in Highly Efficient Catalysts (M) 563
- Searching for New Reactivity (Nobel Lecture) (R) 2024
- Sequential Catalytic Asymmetric Allylic Transfer Reaction: Enantioselective and Diastereoselective Construction of Tetrahydropyran Units (C) 161
- Stereoselective Total Synthesis of Epithilones by the Metathesis Approach Involving C9–C10 Bond Formation (C) 1381
- The First Polymer-Supported and Recyclable Chiral Catalyst for Enantioselective Olefin Metathesis (C) 589
- The Inhibiting Influence of Aromatic Solvents on the Activity of Asymmetric Hydrogenations (C) 777
- Unprecedented Regiocontrol Using An Aldolase I Antibody (C) 1012
- Asymmetric hydrogenation
  - Asymmetric Catalysis: Science and Opportunities (Nobel Lecture) (R) 2008
  - Asymmetric Hydrogenations (Nobel Lecture) (R) 1998
- Asymmetric synthesis
  - A Biomimetically Inspired Synthesis of the Dehydropiperidine Domain of Thio-strepton (C) 1941
  - A Cascade Cycloaddition Strategy Leading to the Total Synthesis of (–)-FR182877 (C) 1787
  - Aluminum-Catalyzed Asymmetric Addition of TMSCN to Aromatic and Aliphatic Ketones Promoted by an Easily Accessible and Recyclable Peptide Ligand (C) 1009
  - Aminocyclopentadienyl Ruthenium Chloride: Catalytic Racemization and Dynamic Kinetic Resolution of Alcohols at Ambient Temperature (C) 2373
  - An Asymmetric Cyanation Reaction and Sequential Asymmetric Cyanation–Nitroaldol Reaction Using a  $[YLi_3\{tris(bi-naphthoxide)\}]$  Single Catalyst Component: Catalyst Tuning with Achiral Additives (C) 3636
  - An Asymmetric Phase-Transfer Dihydroxylation Reaction (C) 3479
  - An Efficient Enantioselective Synthesis of (–)-Galanthamine (C) 2795
  - An Efficient One-Pot Enantio- and Diastereoselective Synthesis of Heterocycles (C) 4693
  - A New Synthesis Route to Enantiomerically Pure Jasmonoids (C) 4054
  - A Novel Regio- and Stereoselective Synthesis of Sulfamides from 1,2-Diols Using Burgess and Related Reagents: A Facile Entry into  $\beta$ -Amino Alcohols (C) 834
  - Asymmetric Photochemistry and Photochirogenesis (M) 3147
  - Biomimetic  $NAD^+$  Models for Tandem Cofactor Regeneration, Horse Liver Alcohol Dehydrogenase Recognition of 1,4-NADH Derivatives, and Chiral Synthesis (C) 478
  - Callipeltoside A: Assignment of Absolute and Relative Configuration by Total Synthesis (C) 841
  - Catalytic, Asymmetric Baylis–Hillman Reaction of Imines with Methyl Vinyl Ketone and Methyl Acrylate (C) 4507
  - Chiral Epoxides by Desymmetrizing Deprotonation of *meso*-Epoxides (C) 2376
  - Concise Enantioselective Synthesis of (+)-FR66979 and (+)-FR900482: Dime-thyldioxirane-Mediated Construction of the Hydroxylamine Hemiketal (C) 4683
  - Configurational Stability and Transfer of Stereochemical Information in the Reactions of Enantioenriched Organolithium Reagents (R) 716
  - $C_2$ -Symmetric Chiral Pentacyclic Guanidine: A Phase-Transfer Catalyst for the Asymmetric Alkylation of *tert*-Butyl Glycinate Schiff Base (C) 2832
  - Diastereoselective Asymmetric Nitro-Aldol Reaction of  $\alpha$ -Amino Aldehydes under High Pressure without Catalyst (C) 1031
  - Direct Asymmetric Aldol Reactions of Glycine Schiff Base with Aldehydes Catalyzed by Chiral Quaternary Ammonium Salts (C) 4542
  - Emil Fischer—Unequalled Classicist, Master of Organic Chemistry Research, and Inspired Trailblazer of Biological Chemistry (E) 4439
  - Enantioselective Synthesis of Kedarcidin Chromophore Aglycon in Differentially Protected Form (C) 1062
  - Enantioselective Synthesis of Propargylamines by Copper-Catalyzed Addition of Alkynes to Enamines (C) 2535



- Enantioselective Total Synthesis of Angucyclinone-Type Antibiotics Rubiginones A<sub>2</sub> and C<sub>2</sub> (C) 2755
- Facile Construction of *N*-Hydroxybenzazocine: Enantioselective Total Synthesis of (+)-FR900482 (C) 4686
- First De Novo Synthesis of the Bisindole Alkaloid Vinblastine (H) 4217
- Halide Effects in Transition Metal Catalysis (R) 26
- Highly Efficient Stereocontrolled Total Synthesis of the Polyfunctional Carotenoid Peridinin (C) 1023
- Highly Enantioselective Desymmetrization of Anhydrides by Carbon Nucleophiles: Reactions of Grignard Reagents in the Presence of (–)-Sparteine (C) 1057
- New Ferrocenyl Ligands with Broad Applications in Asymmetric Catalysis (C) 4708
- *N,N*-Dialkylhydrazones as the Imine Component in the Staudinger-Like [2 + 2] Cycloaddition to Benzyloxyketene (C) 831
- Polymer-Supported C<sub>2</sub>-Symmetric Ligands for Palladium-Catalyzed Asymmetric Allylic Alkylation Reactions (C) 4691
- Stereocontrolled Synthesis of the Quinaldic Acid Macrocyclic System of Thiostrepton (C) 1937
- Stereoselective Formation of Quaternary Carbon Centers: Alkylation of  $\alpha,\alpha$ -Disubstituted Amide Enolates (C) 2338
- Stereoselective Pinacol-Type Rearrangement of 2,3-Epoxy Alcohols with Retention of Configuration Mediated by Bis(iodozincio)methane (C) 2837
- Stereoselective Synthesis of  $\beta$ -D-Mannopyranosides with Reactive Mannopyranosyl Donors Possessing a Neighboring Electron-Withdrawing Group (C) 2972
- Synthesis of Enantioenriched 5-Alkylidene-2-cyclopentenones from Chiral Allenyl Carbamates: Generation of a Chiral Lithium Allenolate and Allylic Activation for a Conrotatory  $4\pi$ -Electrocyclization (C) 1532
- The Asymmetric Meerwein–Schmidt–Ponndorf–Verley Reduction of Prochiral Ketones with *i*PrOH Catalyzed by Al Catalysts (C) 1020
- The First Highly Efficient Asymmetric Synthesis of  $\alpha$ -Substituted Methyl Sulfonates (C) 109
- The HfCl<sub>4</sub>-Mediated Diels–Alder Reaction of Furan (C) 4079
- Total Synthesis of (+)-Epoxyquinols A and B (C) 3192
- Total Synthesis of (±)-FR66979 (C) 4688
- Total Synthesis of Leucascandrolide A (C) 4098
- Total Synthesis of (+)-Pamamycin-607 (C) 1392
- Ate Complexes**
  - Are Ate Complexes True Intermediates in Lithium–Metalloid Exchange? Subtle Effects of Ion-Pair Structure in Lithium–Tellurium and Lithium–Selenium Exchange Reactions (C) 3436
- Atmospheric chemistry**
  - News about Oxygen (H) 573
- Atropisomerism**
  - Conformationally Flexible, Chiral Quaternary Ammonium Bromides for Asymmetric Phase-Transfer Catalysis (C) 1551
  - The “Aryne” Route to Biaryls Featuring Uncommon Substituent Patterns (C) 4272
  - The Diazonamides: The Plot Thickens (H) 2489
- Autocatalysis**
  - Chirality of Living Systems: A Helping Hand from Crystals and Oligopeptides (M) 1139
- Autonomous movement**
  - Autonomous Movement and Self-Assembly (C) 652
- Autoumpolung**
  - Dinitroxide Carbenes, A New Class of Carbenes with Autoumpolung Character: Preparation in Solution and Stabilization in Transition Metal Complexes (C) 311
- Azadirachtin**
  - Model Studies Towards Azadirachtin: Part 1. Construction of the Crowded C8–C14 Bond by Radical Chemistry (C) 2103
  - Model Studies Towards Azadirachtin: Part 2. Construction of the Crowded C8–C14 Bond by Transition Metal Chemistry (C) 2107
- Azides**
  - A Click Chemistry Approach to Tetrazoles by Huisgen 1,3-Dipolar Cycloaddition: Synthesis of 5-Acyltetrazoles from Azides and Acyl Cyanides (C) 2113
  - A Click Chemistry Approach to Tetrazoles by Huisgen 1,3-Dipolar Cycloaddition: Synthesis of 5-Sulfonyl Tetrazoles from Azides and Sulfonyl Cyanides (C) 2110
  - A Stepwise Huisgen Cycloaddition Process: Copper(I)-Catalyzed Regioselective “Ligation” of Azides and Terminal Alkynes (C) 2596
  - Radical Carboazidation of Alkenes: An Efficient Tool for the Preparation of Pyrrolidinone Derivatives (C) 3460
  - The Elusive Terminal Imido of Manganese(v) (C) 3591
- Azo compounds**
  - A Method for Thermal Generation of Aryloxy Radicals at Ambient Temperatures: Application to Low-Density Lipoprotein (LDL) Oxidation (C) 804
  - A Selective Chromogenic Reagent for Nitrate (C) 1416
  - Photoresponsive Cyclic Bis(cysteinyloxy)peptides as Catalysts of Oxidative Protein Folding (C) 289
- Azomethine ylides**
  - Enantiospecific Synthesis of the Bridged Pyrrolizidine Core of Asparagine A: Dipolar Cycloadditions of Azomethine Ylides Derived from the Sulfonylation of Vinylogous Amides. (C) 1778
- Azulenes**
  - An Azulene Analogue of the Tripyranes and Carbaporphyrinoids Therefrom (C) 1371
  - An Azulene Dimer as a Near-Infrared Quencher (C) 3659
- Back-scattering**
  - Probing the Spatial Distribution and Morphology of Supported Nanoparticles Using Rutherford-Scattered Electron Imaging (C) 3804
- Baeyer–Villiger oxidation**
  - Baeyer–Villiger Oxidations with Hydrogen Peroxide in Fluorinated Alcohols: Lactone Formation by a Nonclassical Mechanism (C) 4481
- Balhimycin**
  - Fluorobalhimycin—A New Chapter in Glycopeptide Antibiotic Research (C) 3383
- Barbaralanes**
  - A C<sub>2v</sub>-Symmetric Barbaralane (C) 3429
- Barium**
  - A One-Dimensional BaI<sub>2</sub> Chain with Five- and Six-Coordination, Formed within a Single-Walled Carbon Nanotube (C) 1156
  - A Triple-Decker Sandwich Complex of Barium (C) 2315
- Base pairs**
  - Polymerase Recognition of Unnatural Base Pairs (C) 3841
- Basicity**
  - A Straightforward Detection of Deprotonated Conformers of Malonic Acid by Solid-State <sup>13</sup>C NMR Spectroscopy (C) 4743
- Baylis–Hillman reactions**
  - Catalytic, Asymmetric Baylis–Hillman Reaction of Imines with Methyl Vinyl Ketone and Methyl Acrylate (C) 4507
- Benzene**
  - Gas-Phase Detection of the Elusive Benzoborirene Molecule (C) 2350
- Benzooin condensation**
  - An Efficient Nucleophilic Carbene Catalyst for the Asymmetric Benzooin Condensation (C) 1743
- Benzvalene**
  - 1,2,3,5-Tetrahydro-1,2,3-methenopentene, a Valence Isomer of Isoindene: Synthesis and Diels–Alder Reactions (C) 2969
- Biaryl compounds**
  - Highly Selective Formation of Eight-Membered-Ring Systems by Oxidative Cyclization with Molybdenum Pentachloride—An Environmentally Friendly and Inexpensive Access to 2,2'-Cycloignans (C) 2981
- Biaryls**
  - A Convenient Oxime-Carbapalladacycle-Catalyzed Suzuki Cross-Coupling of Aryl Chlorides in Water (C) 179
  - A Highly Active and Air-Stable Ruthenium Complex for Olefin Metathesis (C) 794
  - Fluorous Biphasic Catalysis without Perfluorinated Solvents: Application to Pd-Mediated Suzuki and Sonogashira Couplings (C) 4500
  - IAN-Amines: Direct Entry to a Chiral C<sub>2</sub>-Symmetric Zirconium(IV)  $\beta$ -Diketimine Complex (C) 345
  - The “Aryne” Route to Biaryls Featuring Uncommon Substituent Patterns (C) 4272
  - The Total Synthesis of Proteasome Inhibitors TMC-95A and TMC-95B: Discovery of a New Method To Generate *cis*-Propenyl Amides (C) 512
- Bimetallic complexes**
  - Solid-State NMR Studies of MCM-41 Supported with a Highly Catalytically Active Cluster (C) 4726
  - Unprecedented Coupling of Allenylidene and Diynyl Metal Complexes: A Bimetallic Ruthenium System with a C<sub>7</sub> Conjugated Bridge (C) 4513
- Binaphthols**
  - Novel Achiral Biphenol-Derived Diastereomeric Oxovanadium(IV) Complexes for Highly Enantioselective Oxidative Coupling of 2-Naphthols (C) 4532





## Binding affinity

- Approaches to the Description and Prediction of the Binding Affinity of Small-Molecule Ligands to Macromolecular Receptors (R) 2644

## Biocatalysis

- Biocatalytic Asymmetric Hydrogen Transfer (C) 1014

## Biochips

- Using Mass Spectrometry to Characterize Self-Assembled Monolayers Presenting Peptides, Proteins, and Carbohydrates (C) 4715

## Bioinorganic chemistry

- A Tetranuclear Mixed-Valent  $\text{Mn}^{\text{II}}\text{Mn}^{\text{IV}}$  Compound with a  $(\mu_4\text{-O})\text{Mn}_4$  Core (C) 2148
- A Trigonal-Bipyramidal Ferric Aqua Complex with a Sterically Hindered Salen Ligand as a Model for the Active Site of Protocatechuate 3,4-Dioxygenase (C) 3638
- Biological and Medical Significance of Calcium Phosphates (R) 3130
- Bis( $\mu$ -oxo)dimetal "Diamond" Cores in Copper and Iron Complexes Relevant to Biocatalysis (R) 1114 Corrigendum: 1821
- Distal Cu Ion Protects Synthetic Heme/Cu Analogues of Cytochrome Oxidase against Inhibition by CO and Cyanide (C) 4139
- Electrocatalytic  $\text{O}_2$  Reduction by Synthetic Analogues of the Heme/Cu Site of Cytochrome Oxidase Incorporated in a Lipid Film (C) 3487
- Mesophases of (Bio)Polymer-Silica Particles Inspire a Model for Silica Biomineralization in Diatoms (C) 1543
- Monomeric Compounds Containing the  $\text{cis-[V(=O)(OH)]}^+$  Core (C) 2797
- Remarkable Cooperativity between a  $\text{Zn}^{\text{II}}$  Ion and Guanidinium/Ammonium Groups in the Hydrolysis of RNA (C) 4013
- Unusual Peroxo Intermediates in the Reaction of Dioxygen with Carboxylate-Bridged Diiron( $\text{II},\text{II}$ ) Paddlewheel Complexes (C) 149

## Biological homochirality

- How Important is Parity Violation for Molecular and Biomolecular Chirality? (R) 4618

## Biomaterials

- Biological and Medical Significance of Calcium Phosphates (R) 3130
- Erodible Conducting Polymers for Potential Biomedical Applications (C) 141

## Biomimetic synthesis

- Asymmetric Baeyer-Villiger Reaction with Hydrogen Peroxide Catalyzed by a Novel Planar-Chiral Bisflavin (C) 2366
- Biological and Medical Significance of Calcium Phosphates (R) 3130
- Biomimetic  $\text{NAD}^+$  Models for Tandem Cofactor Regeneration, Horse Liver Alcohol Dehydrogenase Recognition of 1,4-NADH Derivatives, and Chiral Synthesis (C) 478
- Facile Assembly of Cell Surface Oligosaccharide Mimics by Copolymerization of Carbohydrate Modules (C) 4463
- Formation of a Class of Enzyme Inhibitors (Drugs), Including a Chiral Compound, by Using Imprinted Polymers or Biomolecules as Molecular-Scale Reaction Vessels (C) 4459
- Sterecontrolled Total Synthesis of Apicalen A and Its  $\Delta^{17,18}$  Z Isomer (C) 3701

- The Diels-Alder Reaction in Total Synthesis (R) 1668

## Biomineralization

- Biological and Medical Significance of Calcium Phosphates (R) 3130
- Biomineralization in Diatoms Mediated through Peptide- and Polyamine-Assisted Condensation of Silica (H) 3167
- Chirality of Living Systems: A Helping Hand from Crystals and Oligopeptides (M) 1139
- Mesophases of (Bio)Polymer-Silica Particles Inspire a Model for Silica Biomineralization in Diatoms (C) 1543

## Bioorganic chemistry

- A Bacterial Small-Molecule Three-Hybrid System (C) 2327
- A (6-4) Photolyase Model: Repair of DNA (6-4) Lesions Requires a Reduced and Deprotonated Flavin (C) 767
- Efficient, Racemization-Free Peptide Coupling of *N*-Alkyl Amino Acids by Using Amino Acid Chlorides Generated In Situ—Total Syntheses of the Cyclopeptides Cyclosporin O and Omphalotin A (H) 4661
- Electron-Transfer Dynamics of Cytochrome C: A Change in the Reaction Mechanism with Distance (C) 4700
- Fapy·dA Induces Nucleotide Misincorporation Translesionally by a DNA Polymerase (C) 771
- From Protein Domains to Drug Candidates—Natural Products as Guiding Principles in the Design and Synthesis of Compound Libraries (R) 2878
- Weak Distance Dependence of Excess Electron Transfer in DNA (C) 1763

## Biosensors

- A Mass Spectrometry Based Direct-Binding Assay for Screening Binding Partners of Proteins (C) 646
- Amplified DNA Detection by Electrogenerated Biochemiluminescence and by the Catalyzed Precipitation of an Insoluble Product on Electrodes in the Presence of the Doxorubicin Intercalator (C) 3398
- Dendritic Polymers in Biomedical Applications: From Potential to Clinical Use in Diagnostics and Therapy (M) 1329
- Direct Screening for Phosphatase Activity by Turnover-Based Capture of Protein Catalysts (C) 775 Corrigendum: 1460
- Electrodeposition of Redox Polymers and Co-Electrodeposition of Enzymes by Coordinative Crosslinking (C) 810
- Global Replacement of Tryptophan with Aminotryptophans Generates Non-Invasive Protein-Based Optical pH Sensors (C) 4066
- Visualization of Molecular Recognition Events on Microstructured Lipid-Membrane Compartments by In Situ Scanning Force Microscopy (C) 314

## Biosynthesis

- Biomineralization in Diatoms Mediated through Peptide- and Polyamine-Assisted Condensation of Silica (H) 3167
- Biosynthesis of Polyunsaturated Fatty Acids by Polyketide Synthases (H) 1866
- Cell-Free Biosynthesis of Fluoroacetate and 4-Fluorothreonine in *Streptomyces cattleya* (C) 3913
- Cyclization of (–)-Pregaliellalactone in the Fungus *Galiella rufa* (C) 2158
- (*E*)-4-Hydroxy-3-methylbut-2-enyl Diphosphate: An Intermediate in the For-

- mation of Terpenoids in Plant Chromoplasts (C) 2604

- Isoprenoid Biosynthesis through the Methylerythritol Phosphate Pathway: The (*E*)-4-Hydroxy-3-methylbut-2-enyl Diphosphate Synthase (GcpE) is a [4Fe–4S] Protein (C) 4337

- Mechanistic Studies of HPP Epoxidase: Configuration of the Substrate Governs Its Enzymatic Fate (C) 4529

- Protein-Inspired Materials: Synthetic Concepts and Potential Applications (H) 1509

- The Selective Incorporation of Alkenes into Proteins in *Escherichia coli* (C) 2840

## Biotechnology

- Biosynthesis of Polyunsaturated Fatty Acids by Polyketide Synthases (H) 1866

## Biotinylation

- Protein Affinity Labeling Mediated by Genetically Encoded Peptide Tags (C) 356

## Biotransformations

- Activity of Lipases and Esterases towards Tertiary Alcohols: Insights into Structure-Function Relationships (C) 3211
- Cell-Free Biosynthesis of Fluoroacetate and 4-Fluorothreonine in *Streptomyces cattleya* (C) 3913
- Enantioselective Stereoinversion in the Kinetic Resolution of *rac*-*sec*-Alkyl Sulfate Esters by Hydrolysis with an Alkyl-sulfatase from *Rhodococcus ruber* DSM 44541 Furnishes Homochiral Products (C) 4052

## Biphasic catalysis

- Fluorous Biphasic Esterification Directed towards Ultimate Atom Efficiency (C) 4117
- Modern Separation Techniques for the Efficient Workup in Organic Synthesis (R) 3964
- Supramolecular Cluster Catalysis: Benzene Hydrogenation Catalyzed by a Cationic Triruthenium Cluster under Biphasic Conditions (C) 99

## Biphenyl

- Electron-Hole Pairs Stabilized in Al-ZSM-5 Zeolites (C) 1241

## Bipyridine ligands

- Macromolecules Containing Bipyridine and Terpyridine Metal Complexes: Towards Metallosupramolecular Polymers (R) 2892

## Biradicals

- Odd-Electron Bonds and Biradicals in Main Group Element Chemistry (H) 4006

## Birefringence

- Nonrelaxable Anisotropic Organization of Organic-Inorganic Hybrid Materials Induced by an Electric Field (C) 594

## Bismuth

- A Unique Bismuth-Iron Chain Polymer Containing the  $\cdots\text{-Bi-Fe}\cdots$  Link: Formation and Structure of  $[\text{nBuBiFe}(\text{CO})_4]_\infty$  (C) 2384
- Bismuthine  $\text{BiH}_3$ : Fact or Fiction? High-Resolution Infrared, Millimeter-Wave, and Ab Initio Studies (C) 2550
- Facile Oxidation of Alcohols to Carbonyl Compounds Using a Tris(2-methylphenyl)bismuth Dichloride-DBU Binary System (C) 3028
- Synthesis and Structure of the First Stable Phosphabismuthene (C) 139
- Synthesis of the Dibismuthene Complex  $[\{\mu\text{-}\eta^2\text{-(cis-Me}_3\text{SiCH}_2\text{Bi)}_2\}\{\text{W}(\text{CO})_5\}_2]$  from a Cyclobismuthane and  $[\text{W}(\text{CO})_5(\text{thf})]$  (C) 2309

# Block copolymers

- Catalysts for the Living Insertion Polymerization of Alkenes: Access to New Polyolefin Architectures Using Ziegler–Natta Chemistry (R) 2236
- One-Step Preparation of Block Copolymer Vesicles with Preferentially Segregated Acidic and Basic Corona Chains (C) 1001
- Polymeric Surfactants for the New Millennium: A pH-Responsive, Zwitterionic, Schizophrenic Diblock Copolymer (C) 1413
- Shape-Memory Polymers (R) 2034
- Synthesis of Very Thin 1D and 2D CdWO<sub>4</sub> Nanoparticles with Improved Fluorescence Behavior by Polymer-Controlled Crystallization (C) 2356
- Vesicular Nanostructures Prepared by Reactive Melt Blending (C) 2154

# Bond energy

- Additivity and Quantification of Dispersive Interactions—from Cyclopropyl to Nitro Groups: Measurements on Porphyrin Derivatives (C) 1368

# Bond-stretch isomers

- A Spiropentasiladiene and Other Strained Silicon-Containing Rings (H) 1861
- Odd-Electron Bonds and Biradicals in Main Group Element Chemistry (H) 4006

# Bond theory

- Charge-Density Study of Methane Di-(triimido)sulfonic Acid H<sub>2</sub>C(S(NtBu)<sub>2</sub>–(NHtBu))<sub>2</sub>—the NR Analogue of H<sub>2</sub>C(S(O)<sub>2</sub>(OH))<sub>2</sub> (C) 2079
- Electronic Structure and Bonding in Hexacoordinate Silyl–Palladium Complexes (C) 1953
- Heterodinuclear Transition-Metal Complexes with Multiple Metal–Metal Bonds (R) 3948
- Synthesis and Structure of (MeN)Ph<sub>2</sub>S=C=SPh<sub>2</sub>(NMe) (C) 2576

# Boranes

- An Iridaborane Reaction Cycle Driven by PMe<sub>3</sub> and BH<sub>3</sub>·THF: Synthesis and Characterization of [Cp\*IrB<sub>3</sub>H<sub>7</sub>(PMe<sub>3</sub>)] and [Cp\*IrB<sub>3</sub>H<sub>6</sub>(PMe<sub>3</sub>)] (C) 3860
- A One-Pot Cross-Metathesis/Allylboration Reaction: A Three-Component Coupling for the Synthesis of Functionalized Homoallylic Alcohols (C) 807
- Carbonyltris(trifluoromethyl)borane, (CF<sub>3</sub>)<sub>3</sub>BCO, An Unusual Boron Carbonyl (C) 799
- Conversion of *arachno*-Nonaborane into Azanaborane: Unexpected Loss of a Firmly Integrated Boron Atom (C) 4498
- Planar Hypercoordinate Carbons Joined: Wheel-Shaped Molecules with C–C Axles (C) 4082
- Reaction of 2-Butyne with *nido*-[1,2-(Cp\*RuH)<sub>2</sub>B<sub>3</sub>H<sub>7</sub>]: Improved Kinetic Control Leads to Metallocarboranes of Novel Composition and Structure (C) 2578
- The Extended Borinium Cation: [(tBu<sub>3</sub>PN)<sub>2</sub>B]<sup>+</sup> (C) 498

# Borates

- Nitridoborates of the Lanthanides: Synthesis, Structure Principles, and Properties of a New Class of Compounds (R) 3322

# Borides

- Chemically Tuning between Ferromagnetism and Antiferromagnetism by Combining Theory and Synthesis in Iron/Manganese Rhodium Borides (C) 2528

# Boron

- A Planar, Aromatic *bicyclo*-Tetraborane(4) (C) 1529
- Aromatic Boranes with Planar-Tetra-coordinate Boron Atoms and Very Short B–B Distances (C) 1526
- A Stoichiometric Aromatic C–H Borylation Catalyzed by Iridium(II)/2,2′-Bipyridine Complexes at Room Temperature (C) 3056
- 1,2-Azaborolyls, Isoelectronic Analogues of the Ubiquitous Cyclopentadienyl Ligand: Synthesis of *B*-Heteroatom-Substituted 1,2-Azaborolyl Complexes and an Assessment of Their Electronic Features (C) 174
- Boron Chemistry Lights the Way: Optical Properties of Molecular and Polymeric Systems (M) 2927
- *cis* and *trans* Forms of a Binuclear Subphthalocyanine (C) 2565
- Comment on the Communication “Highly Efficient White Organic Electroluminescence from a Double-Layer Device Based on a Boron Hydroxyphenylpyridine Complex” by Wang et al. (C) 2273
- Conversion of *arachno*-Nonaborane into Azanaborane: Unexpected Loss of a Firmly Integrated Boron Atom (C) 4498
- Copper-Catalyzed Reductive Alkylations of Enones: A Novel Transmetalation Protocol (C) 4580
- Direct Electrophilic Insertion into a Twelve-Vertex Metallocarborane (C) 4112
- From Classical to Nonclassical Metal–Boron Bonds: Synthesis of a Novel Metallocarborane (C) 1359
- Gallium Flux Synthesis of Tb<sub>3–x</sub>C<sub>2</sub>Si<sub>8</sub>(B<sub>12</sub>)<sub>3</sub>: A Novel Quaternary Boron-Rich Phase Containing B<sub>12</sub> Icosahedra (C) 844
- Gas-Phase Detection of the Elusive Benzoborirane Molecule (C) 2350
- Highly Efficient White Organic Electroluminescence from a Double-Layer Device Based on a Boron Hydroxyphenylpyridine Complex (C) 182
- Ln<sub>13</sub>Br<sub>18</sub>B<sub>3</sub> (Ln = Gd, Tb)—A Compound Containing a Combination of Discrete and Condensed Clusters (C) 4257
- Reply (L) 2274
- Synthesis, Separation, and Characterization of the Topoisomers of Fused Bicyclic Subphthalocyanine Dimers (C) 2561
- The [*closo*-2-CB<sub>6</sub>H<sub>7</sub>]<sup>–</sup> Ion: The First Representative of the 7-Vertex Monocarbaborane Series (C) 2126
- The Extended Borinium Cation: [(tBu<sub>3</sub>PN)<sub>2</sub>B]<sup>+</sup> (C) 498
- Triboracyclopropanes: Two-Electron Double Aromatic Compounds with Very Short B–B Distances (C) 3380

# Boronic acids

- An Alkynylboronic Ester Annulation: Development of Synthetic Methods for Application to Diversity-Oriented Organic Synthesis (C) 3272
- Ruthenium-Catalyzed Oxidative Heck Reactions (C) 169

# Boronic esters

- A Boronic Ester Annulation Strategy for Diversity-Oriented Organic Synthesis (C) 152

# Borylene ligands

- From Classical to Nonclassical Metal–Boron Bonds: Synthesis of a Novel Metallocarborane (C) 1359

# Bridging ligands

- A New Type of Chainlike Tetranuclear Rhodium Complexes with PR<sub>3</sub> and AsMe<sub>3</sub> as Bridging Ligands (C) 2301
- Assignment of Stereochemistry of Facially Protected Bis-porphyrins by Use of a “Molecular Ruler” (C) 1709
- Bifunctional Cp<sup>∞</sup>N Complexes—Unusual Structural Features and Electronic Coupling in Highly Preorganized Bimetallic Systems (C) 2304
- Parallels in Cation and Anion Coordination: A New Class of Cascade Complexes (C) 2335
- Ru<sup>II</sup> Complexes of “Large-Surface” Ligands (C) 4022
- Ruthenium Photocatalysts Capable of Reversibly Storing up to Four Electrons in a Single Acceptor Ligand: A Step Closer to Artificial Photosynthesis (C) 3185
- Unprecedented Coupling of Allenylidene and Diynyl Metal Complexes: A Bimetallic Ruthenium System with a C<sub>7</sub> Conjugated Bridge (C) 4513

# Bromine

- How Attractive is Bromine as a Protecting Group in Aromatic Chemistry? (H) 1699

# Bromohydrins

- Stereospecific Interconversion between *cis* and *trans* 2,3-Epoxy sulfides (C) 819

# Burgess reagents

- A New Method for the Synthesis of Nonsymmetrical Sulfamides Using Burgess-Type Reagents (C) 3866
- A Novel Regio- and Stereoselective Synthesis of Sulfamides from 1,2-Diols Using Burgess and Related Reagents: A Facile Entry into *β*-Amino Alcohols (C) 834

# Butenolides

- Oxidative Cyclization–Dimerization Reaction of 2,3-Allenic Acids and 1,2-Allenyl Ketones: An Efficient Synthesis of 4-(3′-Furanyl)butenolide Derivatives (C) 1775



# Cadmium

- Activation of the Tertiary Carboxamide C–N Bond in Werner Complexes: A Classical Structure–Function Relationship (C) 3386
- Dynamic Acylhydrazone Metal Ion Complex Libraries: A Mixed–Ligand Approach to Increased Selectivity in Extraction (C) 4096
- Formation of High-Quality CdS and Other II–VI Semiconductor Nanocrystals in Noncoordinating Solvents: Tunable Reactivity of Monomers (C) 2368
- Novel, Acentric Metal–Organic Coordination Polymers from Hydrothermal Reactions Involving In Situ Ligand Synthesis (C) 3800

# Cadmium sulfide

- Semiconductor Nanohelices Templated by Supramolecular Ribbons (C) 1705

# Cage compounds

- Assembly of a Truncated-Tetrahedral Chiral [M<sub>12</sub>(μ-L)<sub>18</sub>]<sup>24+</sup> Cage (C) 2515
- Expanded Cubane: Synthesis of a Cage Compound with a C<sub>56</sub> Core by Acetylen-

- ic Scaffolding and Gas-Phase Transformations into Fullerenes (C) 4339
- Helical Sense Bias Induced by Point Chirality in Cage Compounds (C) 1205
  - “Molecular” Molecular Sieves: Lid-Free Decamethylcucurbit[5]uril Absorbs and Desorbs Gases Selectively (C) 3020
  - Self-Assembly of Trigonal-Prismatic Metallogages Encapsulating  $\text{BF}_4^-$  or  $\text{CuI}_2^{2-}$  as Anionic Guests: Structures and Mechanism of Formation (C) 3371
  - Spherical Homoaromaticity (C) 4309
  - Using Molecular Symmetry to Form New Drugs: Hydroxymethyl-Substituted 3,9-Diazatetraasteranes as the First Class of Symmetric MDR Modulators (C) 3623
  - $[\text{Zn}_4(\text{thf})_4(\text{MeZn})_4(\text{O}_3\text{SiR})_4]$  (R = 2,6- $i\text{Pr}_2\text{C}_6\text{H}_3\text{N}(\text{SiMe}_3)$ ), A Compound Containing Trigonal-Planar, Tetrahedral, and Trigonal-Bipyramidal Metal Atoms: A New Route to Larger Aggregates (C) 1226
- Calcination
- Computational Prediction of the Phase Transformation of Two As-Synthesized Oxyfluorinated Compounds into the Zeotype CHA Forms (C) 972
- Calcium
- A Highly Specific  $\text{Ca}^{2+}$ -Ion Sensor: Signaling by Exciton Interaction in a Rigid–Flexible–Rigid Bichromophoric “H” Foldamer (C) 1766
  - Morphosynthesis of Octacalcium Phosphate Hollow Microspheres by Polyelectrolyte-Mediated Crystallization (C) 2163
- Calixarenes
- Mutually Induced Formation of Host–Guest Complexes between *p*-Sulfonated Calix[8]arene and Photolabile Cholinergic Ligands (C) 4706
  - Remarkable Boosting of the Binding of Ion-Paired Organic Salts by Binary Host Systems (C) 2122
  - The First Water-Soluble Copper(I) Calix[6]arene Complex Presenting a Hydrophobic Ligand Binding Pocket: A Remarkable Model for Active Sites in Metalloenzymes (C) 1044
  - Zinc(II) Slides on a Ligand Surface: The X-Ray Crystal Structure and Dynamic Behavior in Solution of  $[\text{Zn}(\text{H}_2\text{L})(\text{tacn})]$  (C) 2076
- Calixpyrroles
- Remarkable Boosting of the Binding of Ion-Paired Organic Salts by Binary Host Systems (C) 2122
  - Synthesis of a Strapped Calix[4]pyrrole: Structure and Anion Binding Properties (C) 1757
- Calorimetry
- Approaches to the Description and Prediction of the Binding Affinity of Small-Molecule Ligands to Macromolecular Receptors (R) 2644
  - Naked-Eye Detection of Phosphate Ions in Water at Physiological pH: A Remarkably Selective and Easy-To-Assemble Colorimetric Phosphate-Sensing Probe (C) 3809
  - The Rational Design of Anion Host Compounds: An Exercise in Subtle Energetics (C) 104
- Capped porphyrins
- Assignment of Stereochemistry of Facially Protected Bis-porphyrins by Use of a “Molecular Ruler” (C) 1709
- Carbanions
- Chiral Epoxides by Desymmetrizing Deprotonation of *meso*-Epoxides (C) 2376
  - 9,9-Dilithiofluorene: The First Crystal-Structure Analysis of an  $\alpha,\alpha$ -Dilithiated Hydrocarbon (C) 4503
  - Enantioselective Synthesis of Substituted Pyrrolidines by Dynamic Resolution (C) 3887
  - Synthesis and Structure of  $(\text{MeN})\text{Ph}_2\text{S}=\text{C}=\text{SPh}_2(\text{NMe})$  (C) 2576
- Carbene homologues
- Tin Analogues of “Arduengo Carbenes”: Synthesis of 1,3,2 $\lambda^2$ -Diazastannoles and Transfer of Sn Atoms between a 1,3,2 $\lambda^2$ -Diazastannole and a Diazadiene (C) 1888
- Carbene ligands
- A Defined N-Heterocyclic Carbene Complex for the Palladium-Catalyzed Suzuki Cross-Coupling of Aryl Chlorides at Ambient Temperatures (C) 1363
  - A Highly Active and Air-Stable Ruthenium Complex for Olefin Metathesis (C) 794
  - A Highly Efficient Catalyst for the Telomerization of 1,3-Dienes with Alcohols: First Synthesis of a Monocarbene-palladium(o)–Olefin Complex (C) 986
  - A New Type of Chainlike Tetranuclear Rhodium Complexes with  $\text{PR}_3$  and  $\text{AsMe}_3$  as Bridging Ligands (C) 2301
  - A Reaction Pathway of  $[\text{Fe}(\text{CO})_5]$  with Alkynes via Ferrabicyclobutenones (C) 2393
  - $\text{C}_8\text{K}$ -Promoted Self-Condensation and Self-Condensation-Cycloisomerization Reactions of  $\alpha,\beta$ -Unsaturated Fischer Carbene Complexes (C) 3442
  - Dinitroxide Carbenes, A New Class of Carbenes with Autoimpolung Character: Preparation in Solution and Stabilization in Transition Metal Complexes (C) 311
  - N-Heterocyclic Carbenes: A New Concept in Organometallic Catalysis (R) 1290
  - Stereoselective Cyclopolymerization of 1,6-Heptadiynes: Access to Alternating *cis-trans*-1,2-(Cyclopent-1-enylene)vinyl- enes by Fine-Tuning of Molybdenum Imidoalkylidenes (C) 4044
- Carbenes
- A Defined N-Heterocyclic Carbene Complex for the Palladium-Catalyzed Suzuki Cross-Coupling of Aryl Chlorides at Ambient Temperatures (C) 1363
  - An Efficient Nucleophilic Carbene Catalyst for the Asymmetric Benzoin Condensation (C) 1743
  - New Catalyst Systems for the Catalytic Conversion of Methane into Methanol (C) 1745
  - N-Heterocyclic Carbenes: A New Concept in Organometallic Catalysis (R) 1290
  - Observation of the Direct Products of Migratory Insertion in Aryl Palladium Carbene Complexes and Their Subsequent Hydrolysis (C) 2363
  - On the Interaction between N-Heterocyclic Carbenes and Organic Acids: Structural Authentication of the First N–H...C Hydrogen Bond and Remarkably Short C–H...O Interactions (C) 1432
  - Stable Non-Push–Pull Phosphanylcarbenes: NMR Spectroscopic Characterization of a Methylcarbene (C) 2835
  - The Effect of a Hydroxy Protecting Group on the  $\text{PtCl}_2$ -Catalyzed Cyclization of Diynes—A Novel, Efficient, and Selective Synthesis of Carbocycles (C) 2132
- Carbenoids
- Complete Stereospecific Cyclopropanation of  $\alpha,\beta$ -Unsaturated Amides Promoted by  $\text{Sm}/\text{CH}_2\text{I}_2$  (C) 1917
  - Preparation of New Functionalized Cyclopropylmagnesium Reagents (C) 351
- Carbides
- Facile Construction of Anionic Silver(I) Aggregates with Embedded Acetylide and Cyanide Ions (C) 4135
- Carbinols
- Remarkably Stable Tetrahedral Intermediates: Carbinols from Nucleophilic Additions to *N*-Acylpyrroles (C) 3188
- Carboamination
- A New  $\text{Pd}^0$ – $\text{Cu}^I$  Bimetallic Catalyst for the Synthesis of Indoles from Isocyanates and Allyl Carbonates (C) 3230
- Carbocations
- Comment on the X-Ray Structure of Pentamethylcyclopentadienyl Cation (L) 2276
  - Development of a Co-Mediated Rearrangement Reaction (C) 2584
  - Do Isopropyl and *tert*-Butyl Cations Form  $\pi$  Complexes with Benzene? (C) 3208
  - First Direct Observation of the Two Distinct Steps in an  $\text{S}_{\text{N}}1$  Reaction (C) 4493
  - Investigation of Reactive Intermediates of Chemical Reactions in Solution by Electrospray Ionization Mass Spectrometry: Radical Chain Reactions (C) 2738
  - Protonated Benzene: IR Spectrum and Structure of  $\text{C}_6\text{H}_7^+$  (C) 3628
  - Statement (L) 2278
  - Tetra- and Pentacyclopentacyclopentadiene—Two New Donor-Substituted Ligands for Metal Complexes (C) 786
  - The Effect of a Hydroxy Protecting Group on the  $\text{PtCl}_2$ -Catalyzed Cyclization of Diynes—A Novel, Efficient, and Selective Synthesis of Carbocycles (C) 2132
  - The Stable Pentamethylcyclopentadienyl Cation (C) 1429 Corrigendum: 1642
  - The Stable Pentamethylcyclopentadienyl Cation Remains Unknown (C) 2275
- Carbocycles
- Synthesis and Evaluation of Transition-State Analogue Inhibitors of  $\alpha$ -1,3-Fucosyltransferase (C) 3041
- Carbohydrates
- A Model System Mimicking Glycosphingolipid Clusters to Quantify Carbohydrate Self-Interactions by Surface Plasmon Resonance (C) 1554
  - A Straightforward NMR-Spectroscopy-Based Method for Rapid Library Screening (C) 3454
  - Carbohydrate Arrays as Tools for Glycomics (H) 3583
  - Conformational Locking of the Glycosyl Acceptor for Stereocontrol in the Key Step in the Synthesis of Heparin (C) 2128
  - Cyclotrehalins: Cyclooligosaccharide Receptors Featuring a Hydrophobic Cavity (C) 3674 Corrigendum: 4370
  - Emil Fischer—Unequalled Classicist, Master of Organic Chemistry Research, and Inspired Trailblazer of Biological Chemistry (E) 4439
  - Fabrication of Carbohydrate Chips for Studying Protein–Carbohydrate Interactions (C) 3180
  - Facile Assembly of Cell Surface Oligosaccharide Mimics by Copolymerization of Carbohydrate Modules (C) 4463
  - Heparin–Protein Interactions (R) 390

- Highly Selective Disaccharide Recognition by a Tricyclic Octaamide Cage (C) 4093
- Intramolecular 1,8-Hydrogen Abstraction Between Glucopyranose Units in a Disaccharide Model Promoted by Alkoxy Radicals (C) 856
- Molecular Recognition of Carbohydrates through Directional Hydrogen Bonds by Urea-Appended Porphyrins in Organic Media (C) 2947
- Novel Glycodendrimers Self-Assemble to Nanoparticles which Function as Polyvalent Ligands In Vitro and In Vivo (C) 3195
- Peptide-Templated Saccharide Synthesis on a Solid Support (C) 1215
- Polymorphism in the Crystal Structure of the Cellulose Fragment Analogue Methyl 4-*O*-Methyl- $\beta$ -D-Glucopyranosyl-(1-4)- $\beta$ -D-Glucopyranoside (C) 4277
- Synthesis of Biologically Potent  $\alpha$ 1  $\rightarrow$ 2-Linked Disaccharide Derivatives via Regioselective One-Pot Protection–Glycosylation (C) 2360
- The First Highly Efficient Asymmetric Synthesis of  $\alpha$ -Substituted Methyl Sulfonates (C) 109
- Unexpected Carbonyl Mobility in Aminoketoses: The Key to Major Maillard Crosslinks (C) 801
- Using Mass Spectrometry to Characterize Self-Assembled Monolayers Presenting Peptides, Proteins, and Carbohydrates (C) 4715
- Carbon**
  - What Is a Discovery? Carbon Skeletal Rearrangements as Counter-Examples to the Rule of Minimal Structural Change (E) 4655
- Carbon allotropes**
  - Fabrication of Ultrafine Conducting Polymer and Graphite Nanoparticles (C) 4016
  - Functionalization of Single-Walled Carbon Nanotubes (M) 1853
  - Tetraiodobutatriene: A New Cumulenic Carbon Iodide (C) 3011
  - The Catalytic Use of Onion-Like Carbon Materials for Styrene Synthesis by Oxidative Dehydrogenation of Ethylbenzene (C) 1885
- Carbon dioxide fixation**
  - Electronic and Steric Effects on Catalysts for CO<sub>2</sub>/Epoxide Polymerization: Subtle Modifications Resulting in Superior Activities (C) 2599
- Carbonylation**
  - Enantiopure  $\beta$ -Hydroxy Morpholine Amides from Terminal Epoxides by Carbonylation at 1 atm (C) 4703
  - Ionic Liquids Containing Anionic Selenium Species: Applications for the Oxidative Carbonylation of Aniline (C) 4300
  - [Lewis Acid]<sup>+</sup>[Co(CO)<sub>4</sub>]<sup>−</sup> Complexes: A Versatile Class of Catalysts for Carbonylative Ring Expansion of Epoxides and Aziridines (C) 2781
- Carbonyl compounds**
  - A New Catalyst for the Selective Oxidation of Butane and Propane (C) 858
  - Facile Oxidation of Alcohols to Carbonyl Compounds Using a Tris(2-methylphenyl)bismuth Dichloride–DBU Binary System (C) 3028
- Carbonyl ligands**
  - A Unique Bismuth–Iron Chain Polymer Containing the  $\cdots$ -Bi-Fe- $\cdots$  Link: Formation and Structure of [nBuBiFe(CO)<sub>4</sub>]<sub>∞</sub> (C) 2384
  - Carbonyltris(trifluoromethyl)borane, (CF<sub>3</sub>)<sub>3</sub>BCO, An Unusual Boron Carbonyl (C) 799
  - [(C<sub>6</sub>H<sub>4</sub>S<sub>2</sub>)Ni( $\mu$ -S<sub>3</sub>)Fe(CO)(PMe<sub>3</sub>)<sub>2</sub>]: A Dinuclear [NiFe] Complex Modeling the [(RS)<sub>2</sub>Ni( $\mu$ -SR)<sub>2</sub>Fe(CO)(L)<sub>2</sub>] Core of [NiFe] Hydrogenase Centers (C) 632
  - Pd<sup>II</sup>-Catalyzed Cyclization of Alkynes Containing Aldehyde, Ketone, or Nitrile Groups Initiated by the Acetoxypalladation of Alkynes (C) 4343
  - Rhodium Tetracarbonyl Hydride: The Elusive Metal Carbonyl Hydride (C) 3785
  - Tuning Electronic Behavior of Carbonyl Metal Clusters by Substitution of Interstitial and Capping Atoms (C) 3685
- Carboranes**
  - [(PPh<sub>3</sub>)Ag(HCB<sub>11</sub>Me<sub>11</sub>)]: A Complex with Intermolecular Ag $\cdots$ H<sub>3</sub>C Interactions (C) 3694
  - The [closo-2-CB<sub>6</sub>H<sub>7</sub>]<sup>−</sup> Ion: The First Representative of the 7-Vertex Monocarbaborane Series (C) 2126
- Carboxylate ligands**
  - A Breathing Hybrid Organic–Inorganic Solid with Very Large Pores and High Magnetic Characteristics (C) 281
  - Infinite Secondary Building Units and Forbidden Catenation in Metal–Organic Frameworks (C) 284
  - Open-Framework Nickel Succinate, [Ni<sub>7</sub>(C<sub>4</sub>H<sub>4</sub>O<sub>4</sub>)<sub>6</sub>(OH)<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>]·2H<sub>2</sub>O: A New Hybrid Material with Three-Dimensional Ni–O–Ni Connectivity (C) 457
  - QMOF-1 and QMOF-2: Three-Dimensional Metal–Organic Open Frameworks with a Quartzlike Topology (C) 4471
  - Unusual Peroxo Intermediates in the Reaction of Dioxygen with Carboxylate-Bridged Diiron(II,II) Paddlewheel Complexes (C) 149
- Carboxylic acids**
  - A Straightforward Detection of Deprotonated Conformers of Malonic Acid by Solid-State <sup>13</sup>C NMR Spectroscopy (C) 4743
  - Characterization of a Planar Cyclic Form of Water Hexamer in an Organic Supramolecular Complex: An Unusual Self-Assembly of Bimesityl-3,3'-Dicarboxylic Acid (C) 3417
  - Ethane and Ethylidene Dicarboxylates from the Ruthenium(II)-Catalyzed “Disproportionative Addition” of Carboxylic Acids to Ethene (C) 3905
  - Fluorous Biphasic Esterification Directed towards Ultimate Atom Efficiency (C) 4117
  - IBX-Mediated Oxidation of Primary Alcohols and Aldehydes To Form Carboxylic Acids (C) 4059
  - Oxidative Cyclization–Dimerization Reaction of 2,3-Allenic Acids and 1,2-Allenyl Ketones: An Efficient Synthesis of 4-(3'-Furanyl)butenolide Derivatives (C) 1775
- Carotenoids**
  - Highly Efficient Stereocontrolled Total Synthesis of the Polyfunctional Carotenoid Peridinin (C) 1023
- Cascade complexes**
  - Parallels in Cation and Anion Coordination: A New Class of Cascade Complexes (C) 2335
- Catalyst screening**
  - In Situ Enzymatic Screening (ISES): A Tool for Catalyst Discovery and Reaction Development (C) 1603
- Catalytic antibodies**
  - Direct Screening for Phosphatase Activity by Turnover-Based Capture of Protein Catalysts (C) 775 Corrigendum: 1460
  - The Chemistry of the Antibody Molecule (M) 4427
  - Unprecedented Regiocontrol Using An Aldolase I Antibody (C) 1012
- Catenanes**
  - Chirality Induction through the Reversible Catenation of Coordination Rings (C) 3269
  - Dynamic Covalent Chemistry (R) 898 Corrigendum: 1460
- Cations**
  - Cation-Promoted Hierarchical Formation of Supramolecular Assemblies of Self-Organized Helical Molecular Components (C) 1195
  - The Extended Borinium Cation: [(tBu<sub>3</sub>PN)<sub>2</sub>B]<sup>+</sup> (C) 498
  - ZEKE Photoelectron Spectroscopy of the *cis* and *trans* Isomers of Formanilide (C) 166
- C–C activation**
  - A Triple-Decker Complex with a Central Metallabenzene (C) 1589
  - Coordinative Unsaturation in Platinum(IV) Chemistry: From Proposed Reaction Intermediates to the First Structurally Characterized Complexes (H) 261
  - Reaction of “[Mn<sup>II</sup>(CH<sub>2</sub>tBu)<sub>2</sub>]” with Bidentate Diimine Ligands: From Simple Base Adducts to C–C Activation of the Ligand (C) 3025
  - Synthesis of Cycloalkanones from Dienes and Allylamines through C–H and C–C Bond Activation Catalyzed by a Rhodium(I) Complex (C) 3031
- C–C coupling**
  - A Convenient Oxime-Carbapalladacycle-Catalyzed Suzuki Cross-Coupling of Aryl Chlorides in Water (C) 179
  - A Defined N-Heterocyclic Carbene Complex for the Palladium-Catalyzed Suzuki Cross-Coupling of Aryl Chlorides at Ambient Temperatures (C) 1363
  - $\alpha$ -Lithiation of 1-Aryl-3,3-dialkyltriazenes and Intramolecular Conversion to Benzylamine and Tetrahydrobenzotriazine Derivatives (C) 484
  - A New Entry to the Stereoselective Introduction of an Ethynyl Group by a Radical Reaction: Synthesis of the Potential Antimetabolite 2'-Deoxy-2'-C-ethynyluridine (C) 4748
  - A New Generation of Air Stable, Highly Active Pd Complexes for C–C and C–N Coupling Reactions with Aryl Chlorides (C) 3668
  - A New Protocol for the Enantioselective Synthesis of Methyl-Substituted Alkanols and Their Derivatives through a Hydroalumination/Zirconium-Catalyzed Alkylaluminum Tandem Process (C) 2141
  - A Reaction Pathway of [Fe(CO)<sub>5</sub>] with Alkynes via Ferrabicyclobutenones (C) 2393
  - Catalytic, Asymmetric Baylis–Hillman Reaction of Imines with Methyl Vinyl Ketone and Methyl Acrylate (C) 4507
  - C<sub>6</sub>K-Promoted Self-Condensation and Self-Condensation-Cycloisomerization Reactions of  $\alpha,\beta$ -Unsaturated Fischer Carbene Complexes (C) 3442
  - Cobalt-Catalyzed Coupling Reaction of Alkyl Halides with Allylic Grignard Reagents (C) 4137

- Combinatorial Libraries with P-Functionalized Aminopyridines: Ligands for the Preparation of Efficient C(Aryl)–Cl Activation Catalysts (C) 1521
- Convergent Synthesis of Silylated Allylic Alcohols by a Stereoselective Domino, Sequential Radical-Coupling Reaction (C) 1407
- Crystal Structure Analysis of 1,1,4,4-Tetrafluorobutadiene and Experimental Determination of the Charge Density of 1,1,4,4-Tetrafluorobutatriene (C) 296
- Efficient and General Synthetic Approach to Pentasubstituted Conjugated Dienes Using Site-Selective Coupling of Cuprates with 1,4-Diiodo-1,3-alkadienes as the Key Reaction (C) 3023
- Fluorine Biphasic Catalysis without Perfluorinated Solvents: Application to Pd-Mediated Suzuki and Sonogashira Couplings (C) 4500
- Generation of Reactivity from Typically Stable Ligands: C–C Bond-Forming Reductive Elimination from Aryl Palladium(II) Complexes of Malonate Anions (C) 4289
- Highly Selective Formation of Eight-Membered-Ring Systems by Oxidative Cyclization with Molybdenum Pentachloride—An Environmentally Friendly and Inexpensive Access to 2,2'-Cyclolignans (C) 2981
- Hybrid Molecular Dumbbells: Bridging Polyoxometalate Clusters with an Organic  $\pi$ -Conjugated Rod (C) 1566
- Novel Achiral Biphenol-Derived Diastereomeric Oxovanadium(IV) Complexes for Highly Enantioselective Oxidative Coupling of 2-Naphthols (C) 4532
- Radical Carboazidation of Alkenes: An Efficient Tool for the Preparation of Pyrrolidinone Derivatives (C) 3460
- Samarium Diodide-Induced Reductive Cross-Coupling of Nitrones with Aldehydes and Ketones (C) 1772
- Simple Mixed Tricyclohexylphosphane–Triarylphosphite Complexes as Extremely High-Activity Catalysts for the Suzuki Coupling of Aryl Chlorides (C) 4120
- Suzuki Cross-Couplings of Alkyl Tosylates that Possess  $\beta$  Hydrogen Atoms: Synthetic and Mechanistic Studies (C) 3910
- Tin-Free Radical-Mediated C–C-Bond Formations with Alkyl Allyl Sulfones as Radical Precursors (C) 3265
- Unparalleled Rates for the Activation of Aryl Chlorides and Bromides: Coupling with Amines and Boronic Acids in Minutes at Room Temperature (C) 4746
- C–Cl activation
  - Combinatorial Libraries with P-Functionalized Aminopyridines: Ligands for the Preparation of Efficient C(Aryl)–Cl Activation Catalysts (C) 1521
- Cell differentiation
  - Erodible Conducting Polymers for Potential Biomedical Applications (C) 141
  - Induction of Cell Differentiation in Transformed Keratinocytes by Synthetic (Glyco)peptides from the Homophilic Recognition Domain of E-Cadherin (C) 4249
- Cellulose
  - Polymorphism in the Crystal Structure of the Cellulose Fragment Analogue Methyl 4-O-Methyl- $\beta$ -D-Glucopyranosyl-(1-4)- $\beta$ -D-Glucopyranoside (C) 4277
- Ceramics
  - Spinel Sialons (C) 789
- Cesium
  - Cesiumauride Ammonia (1/1), CsAu·NH<sub>3</sub>: A Crystalline Analogue to Alkali Metals Dissolved in Ammonia? (C) 120
  - Relativity, Gold, Closed-Shell Interactions, and CsAu·NH<sub>3</sub> (M) 3573
- C–F activation
  - Conversion of Hexafluoropropene into 1,1,1-Trifluoropropane by Rhodium-Mediated C–F Activation (C) 2745
  - Hydrolytic Activation of C–F Bonds in the Gas Phase by Intrinsically Unreactive Chromium Cations (C) 2538 Corrigendum: 3085
- C-glycosides
  - Samarium Diodide-Mediated Reductive Coupling of Epoxides and Carbonyl Compounds: A Stereocontrolled Synthesis of C-Glycosides from 1,2-Anhydro Sugars (C) 3242
  - Stereoselective Synthesis of  $\beta$ -D-Mannopyranosides with Reactive Mannopyranosyl Donors Possessing a Neighboring Electron-Withdrawing Group (C) 2972
- C–H activation
  - Activation of Alkanes upon Reaction with PhI(OAc)<sub>2</sub>–I<sub>2</sub> (C) 2556
  - Alkene C–H Activations at Dinuclear Complexes Promoted by Oxidation (C) 1208
  - Aryl C–H Activation by Cu<sup>II</sup> To Form an Organometallic Aryl–Cu<sup>III</sup> Species: A Novel Twist on Copper Disproportionation (C) 2991 Corrigendum: 4370
  - A Stoichiometric Aromatic C–H Borylation Catalyzed by Iridium(III)/2,2'-Bipyridine Complexes at Room Temperature (C) 3056
  - Catalytic Enantioselective Synthesis of  $\beta$ -Amino Acids (C) 2197
  - Control of H–C(sp<sup>3</sup>) Bond Cleavage Stoichiometry: Clean Reversible Alkyl Ligand Exchange with Alkane in [LPt(Alk)(H)<sub>2</sub>]<sup>+</sup> (L = [2.1.1]-(2,6)-Pyridinophane) (C) 4102
  - Coordinative Unsaturation in Platinum(IV) Chemistry: From Proposed Reaction Intermediates to the First Structurally Characterized Complexes (H) 261
  - Efficient and Selective Hydroacylation of 1-Alkynes with Aldehydes by a Chelation-Assisted Catalytic System (C) 2146
  - Enantioselective C–C Bond Formation with Titanium(IV) Alkoxides—an Unusual Alkylation (C) 1361
  - Enantioselective Synthesis of Propargylamines by Copper-Catalyzed Addition of Alkynes to Enamines (C) 2535
  - Formal Vinyl C–H Activation and Allylic Oxidation by Olefin Metathesis (C) 3171
  - New Catalyst Systems for the Catalytic Conversion of Methane into Methanol (C) 1745
  - [(PPh<sub>3</sub>)Ag(HCB<sub>11</sub>Me<sub>11</sub>)]: A Complex with Intermolecular Ag···H<sub>3</sub>C Interactions (C) 3694
  - Synthesis of Cycloalkanones from Dienes and Allylamines through C–H and C–C Bond Activation Catalyzed by a Rhodium(I) Complex (C) 3031
- Chain structures
  - Chain Compounds Based on Transition Metal Backbones: New Life for an Old Topic (H) 4453
  - Self-Complementary Metal Complexes Containing a DNA Base Pair (C) 1047
- Chalcogens
  - A 3D Open-Framework Indium Telluride and Its Selenide and Sulfide Analogues (C) 1959
  - Reactivity of Chalcogenostannate Salts: Unusual Synthesis and Structure of a Compound Containing Ternary Cluster Anions [Co<sub>4</sub>( $\mu_4$ -Se)(SnSe<sub>4</sub>)<sub>4</sub>]<sup>10–</sup> (C) 4269
- Chaperone proteins
  - Molecular Chaperones—Cellular Machines for Protein Folding (R) 1098
- Chargaff, Erwin
  - The Torch of Erwin Chargaff and the Fire of Heraklitus Devour Their Children (E) 4213
- Charge density
  - Crystal Structure Analysis of 1,1,4,4-Tetrafluorobutadiene and Experimental Determination of the Charge Density of 1,1,4,4-Tetrafluorobutatriene (C) 296
- Charge transfer
  - A Model Nucleoside for Electron Injection into DNA: 5-Pyrenyl-2'-Deoxyribose (C) 2978
  - An Electrochemical Probe of DNA Stacking in an Antisense Oligonucleotide Containing a C3'-endo-Locked Sugar (C) 3402
  - Color-Tunable Transparent Mesoporous Silica Films: Immobilization of One-Dimensional Columnar Charge-Transfer Assemblies in Aligned Silicate Nanochannels (C) 3414
  - DNA On Silicon Devices: On-Chip Synthesis, Hybridization, and Charge Transfer (C) 615
  - Multiple Emissions from 1,3-Diphenyl-5-pyrenyl-2-pyrazoline Nanoparticles: Evolution from Molecular to Nanoscale to Bulk Materials (C) 962
  - Orbital Interactions in Strong and Weak Hydrogen Bonds are Essential for DNA Replication (C) 2092
  - Supramolecular Amphiphiles: Spontaneous Formation of Vesicles Triggered by Formation of a Charge-Transfer Complex in a Host (C) 4474 Corrigendum: 4612
  - The Structure of the Peroxo Species in the TS-1 Catalyst as Investigated by Resonant Raman Spectroscopy (C) 4734
- Chelate ligands
  - Mono- and Bidentate Phosphinanes—New Chiral Ligands and Their Application in Catalytic Asymmetric Hydrogenations (C) 612
- Chelates
  - A Cyclodextrin Diphosphane as a First and Second Coordination Sphere Cavitand: Evidence for Weak C–H···Cl–M Hydrogen Bonds within Metal-Capped Cavities (C) 2593
  - Chemical Strategies for Iron Acquisition in Plants (M) 2259 Corrigendum: 4610
  - Combinatorial Libraries with P-Functionalized Aminopyridines: Ligands for the Preparation of Efficient C(Aryl)–Cl Activation Catalysts (C) 1521
  - Electrodeposition of Redox Polymers and Co-Electrodeposition of Enzymes by Coordinative Crosslinking (C) 810
  - 1,1'-Ferrocenedi(amido) Chelate Ligands in Titanium and Zirconium Complexes (H) 956
  - Reaction of “[Mn<sup>II</sup>(CH<sub>2</sub>tBu)<sub>2</sub>]” with Bidentate Diimine Ligands: From Simple Base Adducts to C–C Activation of the Ligand (C) 3025
  - Silicon–Enamine Complexes: Pentacoordinate Silicon Compounds (C) 1732

## Chelotropic reactions

- Tin Analogues of “Arduengo Carbenes”: Synthesis of 1,3,2 $\lambda^2$ -Diazastannoles and Transfer of Sn Atoms between a 1,3,2 $\lambda^2$ -Diazastannole and a Diazadiene (C) 1888

## Chemical ligation

- DNA-Templated Synthesis: More Versatile than Expected (H) 89

## Chemical vapor deposition

- Low-Temperature Synthesis of Single-Crystal Germanium Nanowires by Chemical Vapor Deposition (C) 4783

## Chemoenzymatic synthesis

- Synthesis of Neo-Peptidoglycans: An Unexpected Activity of Proteases (C) 2735

## Chemoselectivity

- A One-Pot Cross-Metathesis/Allylboration Reaction: A Three-Component Coupling for the Synthesis of Functionalized Homoallylic Alcohols (C) 807
- New Methods for Proteomic Research: Preparation of Proteins with N-Terminal Cysteines for Labeling and Conjugation (C) 2171
- Sterically Hindered Lithium Dialkylcuprates for the Generation of Highly Functionalized Mixed Cuprates through a Halogen–Copper Exchange (C) 3263

## Chiral auxiliaries

- Ion-Pair-Mediated Asymmetric Synthesis of a Configurationally Stable Mononuclear Tris(diimine)–Iron(II) Complex (C) 2317
- Modular Ligands for Asymmetric Synthesis: Enantioselective Catalytic Cu<sup>II</sup>-Mediated Condensation Reaction of Ethyl Pyruvate with Danishefsky's Diene (C) 625
- The Determination of the Absolute Configurations of Diastereomers of (S)-Camphanoyl 3-Hydroxy-5-oxohexanoic Acid Derivatives by X-ray Crystallography (C) 1198
- The First Highly Efficient Asymmetric Synthesis of  $\alpha$ -Substituted Methyl Sulfonates (C) 109

## Chirality

- A Helical Array of Pendant Fullerenes on an Optically Active Polyphenylacetylene (C) 3602
- A Modular Approach to C<sub>1</sub> and C<sub>3</sub> Chiral N-Tripodal Ligands for Asymmetric Catalysis (C) 3473
- An Enantiomerically Pure Propeller-Shaped Supramolecular Capsule Based on the Stereospecific Self-Assembly of Two Chiral Tris(oxazoline) Ligands around Three Ag<sup>I</sup> Ions (C) 3174
- An Enantiopure Molecular Ferromagnet (C) 586
- A Self-Assembled Porphyrin Box from *meso*–*meso*-Linked Bis[5-*p*-pyridyl-15-(3,5-di-octyloxyphenyl)]porphyrinato zinc(II) (C) 2817
- Asymmetric Photochemistry and Photochirogenesis (M) 3147
- Chirality and Macroscopic Polar Order in a Ferroelectric Smectic Liquid-Crystalline Phase Formed by Achiral Polyphilic Bent-Core Molecules (C) 2408
- Chirality Induction through the Reversible Catenation of Coordination Rings (C) 3269
- Chirality of Living Systems: A Helping Hand from Crystals and Oligopeptides (M) 1139
- Chiral Transmission between Amino Acids: Chirally Selective Amino Acid Substitution in the Serine Octamer as a

## Possible Step in Homochirogenesis (C) 1721

- *cis*-2-Aminocyclopentanecarboxylic Acid Oligomers Adopt a Sheetlike Structure: Switch from Helix to Nonpolar Strand (C) 1718
- Discriminating Chiral Molecules of (R)-PPA and (S)-PPA in Aqueous Solution by ECSTM (C) 3408
- Electric-Field-Modulated Circular-Difference Effects in Second-Harmonic Generation from a Chiral Liquid Crystal (C) 3882
- Enantiopure Double-Helical Alkynyl Cyclophanes (C) 171
- Foldamers as Dynamic Receptors: Probing the Mechanism of Molecular Association between Helical Oligomers and Rodlike Ligands (C) 325
- Helical Chiral Polymers without Additional Stereogenic Units: A New Class of Ligands in Asymmetric Catalysis (C) 1614
- Helical Sense Bias Induced by Point Chirality in Cage Compounds (C) 1205
- Heteropolymolybdates of As<sup>III</sup>, Sb<sup>III</sup>, Bi<sup>III</sup>, Se<sup>IV</sup>, and Te<sup>IV</sup> Functionalized by Amino Acids (C) 4070
- How Important is Parity Violation for Molecular and Biomolecular Chirality? (R) 4618
- Magnetization of Chiral Monolayers of Polypeptide: A Possible Source of Magnetism in Some Biological Membranes (C) 761
- Molecular Clips that Undergo Heterochiral Aggregation and Self-Sorting (C) 4028
- Noninterpenetrating Square-Grid Coordination Polymers With Dimensions of 25  $\times$  25 Å<sup>2</sup> Prepared by Using N,N'-Type Ligands: The First Chiral Square-Grid Coordination Polymer (C) 583
- Phase-Sensitive Supramolecular Chirogenesis in Bisporphyrin Systems (C) 1378
- QMOF-1 and QMOF-2: Three-Dimensional Metal–Organic Open Frameworks with a Quartzlike Topology (C) 4471
- Rational Design of Homochiral Solids Based on Two-Dimensional Metal Carboxylates (C) 1159
- Self-Assembled Receptors for Enantioselective Recognition of Chiral Carboxylic Acids in a Highly Cooperative Manner (C) 1924
- Sequential Catalytic Asymmetric Allylic Transfer Reaction: Enantioselective and Diastereoselective Construction of Tetrahydropyran Units (C) 161
- Template Effects, Asymmetry, and Twinning in Helical Inclusion Compounds (C) 965
- The Absolute Configuration of Bromochlorofluoromethane (C) 4544
- Thermotropic Liquid Crystals from Planar Chiral Compounds: Optically Active Mesogenic [2.2]Paracyclophane Derivatives (C) 3411
- The Role of Nucleation Inhibition in Optical Resolutions with Families of Resolving Agents (C) 4281

## Chirality transfer

- A Stereospecific Ruthenium-Catalyzed Allylic Alkylation (C) 1059
- Synthesis of Enantioenriched 5-Alkylidene-2-cyclopentenones from Chiral Allenyl Carbamates: Generation of a Chiral Lithium Allenolate and Allylic Activation for a Conrotatory 4 $\pi$ -Electrocyclization (C) 1532

## Chiral ligands

- A Dinuclear Zn Catalyst for the Asymmetric Nitroaldol (Henry) Reaction (C) 861
- Catalytic Enantioselective Diels–Alder Reactions: Methods, Mechanistic Fundamentals, Pathways, and Applications (R) 1650

## Chiral resolution

- Enantioselective Photochromic Reaction of a [2.2]Metacyclophan-1-ene (C) 2156
- Ion-Pair-Mediated Asymmetric Synthesis of a Configurationally Stable Mononuclear Tris(diimine)–Iron(II) Complex (C) 2317
- Thermotropic Liquid Crystals from Planar Chiral Compounds: Optically Active Mesogenic [2.2]Paracyclophane Derivatives (C) 3411
- The Role of Nucleation Inhibition in Optical Resolutions with Families of Resolving Agents (C) 4281
- Use of Enzymes Deactivated by Site-Directed Mutagenesis for the Preparation of Enantioselective Membranes (C) 2960

## Chlorinated hydrocarbons

- Low-Temperature Destruction of Chlorinated Hydrocarbons over Lanthanide Oxide Based Catalysts (C) 4730

## Chlorine

- Structure and Synthesis of the Natural Heptachloro-1'-methyl-1,2'-bipyrrrole (Q1) (C) 1740
- X-Ray Structural Characterization of a Monoorganotin Acid (C) 1365

## Chlorohydrins

- Stereoselective Prins Cyclizations of  $\delta,\epsilon$ -Unsaturated Ketones to *cis*-3-Chlorocyclohexanols with TiCl<sub>4</sub> (C) 491

## Chlorophyll

- Biomimetic Model of a Plant Photosystem Consisting of a Recombinant Light-Harvesting Complex and a Terrylene Dye (C) 3378

## Cholic acid

- Micelle Formation and Antimicrobial Activity of Cholic Acid Derivatives with Three Permanent Ionic Head Groups (C) 4275

## Cholinergic ligands

- Mutually Induced Formation of Host–Guest Complexes between *p*-Sulfonated Calix[8]arene and Photolabile Cholinergic Ligands (C) 4706

## Chromium

- A New Crystal Modification of Chromium Tetrafluoride:  $\beta$ -CrF<sub>4</sub> (C) 1398
- An Unprecedented Mixed-Charged State in a Supramolecular Assembly of Ligand-Based Mixed-Valence Redox Isomers (ET<sup>+</sup>)<sub>3</sub>[Cr<sup>III</sup>(Cl<sub>4</sub>SO)<sub>2</sub>(Cl<sub>4</sub>Cat)]<sup>−</sup> [Cr<sup>III</sup>(Cl<sub>4</sub>SO)(Cl<sub>4</sub>Cat)<sub>2</sub>]<sup>2−</sup> (C) 130
- A Structurally Characterized Chromium(III) Superoxide Complex Features “Side-on” Bonding (C) 2333
- Benzylic *endo*-Alkylation of Phthalan–Cr(CO)<sub>3</sub> Complexes via Temporary Silylation: An Entry to *trans*-1,3-Disubstituted Dihydroisobenzofurans (C) 2525
- (C<sub>2</sub>H<sub>10</sub>N<sub>2</sub>)<sub>3</sub>[Cr(HPO<sub>3</sub>)<sub>3</sub>F<sub>3</sub>]: The First Organically Templated Fluorochromium(III) Phosphite (C) 3683
- C<sub>6</sub>K-Promoted Self-Condensation and Self-Condensation-Cycloisomerization Reactions of  $\alpha,\beta$ -Unsaturated Fischer Carbene Complexes (C) 3442
- Diastereoselective Lithiation of ( $\eta^6$ -Arene)dicarbonyltriphenylphosphane Chromium(o) Oxazoline Complexes—

- Direct Preparation of Enantiopure Complexes Having Planar Chiral Fragments of Either Configuration (C) 3884
- Highly Enantioselective Inverse-Electron-Demand Hetero-Diels–Alder Reactions of  $\alpha,\beta$ -Unsaturated Aldehydes (C) 3059
  - Hydrolytic Activation of C–F Bonds in the Gas Phase by Intrinsically Unreactive Chromium Cations (C) 2538 Corrigendum: 3085
  - Synthesis, Structure, and Molecular Orbital Calculations of Chromium(III) and Iron(III) Complexes Containing  $\eta^2$ -Pyrazolato Ligands (C) 1591
- Chromophores
- A Highly Specific  $\text{Ca}^{2+}$ -Ion Sensor: Signaling by Exciton Interaction in a Rigid–Flexible–Rigid Bichromophoric “H” Foldamer (C) 1766
  - A Selective Chromogenic Reagent for Nitrate (C) 1416
  - Layer-By-Layer Deposition and Ordering of Low-Molecular-Weight Dye Molecules for Second-Order Nonlinear Optics (C) 3236
  - Light-Harvesting Dendrimers: Efficient Intra- and Intermolecular Energy-Transfer Processes in a Species Containing 65 Chromophoric Groups of Four Different Types (C) 3595
  - Naked-Eye Detection of Phosphate Ions in Water at Physiological pH: A Remarkably Selective and Easy-To-Assemble Colorimetric Phosphate-Sensing Probe (C) 3809
  - Shape-Persistent, Fluorescent Polyphenylene Dyads and a Triad for Efficient Vectorial Transduction of Excitation Energy (C) 1900
- Cinchona alkaloids
- A Highly Enantioselective and General Conjugate Addition of Thiols to Cyclic Enones with an Organic Catalyst (C) 338
  - Highly Enantioselective and Practical Cinchona-Derived Phase-Transfer Catalysts for the Synthesis of  $\alpha$ -Amino Acids (C) 3036
- Circular dichroism
- A Helical Array of Pendant Fullerenes on an Optically Active Polyphenylacetylene (C) 3602
  - Cation Control in Functional Helical Programming: Structures of a D,L-Peptide Ion Channel (C) 4062
  - Electric-Field-Modulated Circular-Difference Effects in Second-Harmonic Generation from a Chiral Liquid Crystal (C) 3882
  - Enantiopure Double-Helical Alkynyl Cyclophanes (C) 171
  - Enantioselective Photochromic Reaction of a [2.2]Metacyclopent-1-ene (C) 2156
  - Phase-Sensitive Supramolecular Chirogenesis in Bisporphyrin Systems (C) 1378
  - Three-Dimensional Electronic Delocalization in Chiral Conjugated Polymers (C) 4225
- Cleavage reactions
- Activation of the Tertiary Carboxamide C–N Bond in Werner Complexes: A Classical Structure–Function Relationship (C) 3386
  - A Highly Reactive Uranium Complex Supported by the Calix[4]tetrapyrrole Tetraanion Affording Dinitrogen Cleavage, Solvent Deoxygenation, and Polysilanol Depolymerization (C) 3433
  - Hexameric Mg–O Stacks with Six THF-Solvated Sodium Amide Appendages: “Super” Variants of Inverse Crown Ethers Generated by Cleavage of THF (C) 2382
- Closed-shell interactions
- Relativity, Gold, Closed-Shell Interactions, and  $\text{CsAu} \cdot \text{NH}_3$  (M) 3573
- Cluster compounds
- A Cluster Rearrangement of an Open Cubane ( $\text{Cu}_4\text{Br}_4$ ) to a Prismane ( $\text{Cu}_6\text{Br}_6$ ) in a Copper(I)–Olefin Network (C) 2944
  - A Dynamic Rearrangement of a Metal Cluster in a Process that Closely Resembles the Hopping Mechanism of Adatom Diffusion on Metal Surfaces (C) 1951
  - A High Nuclearity, Mixed-Valence Manganese(III,IV) Complex:  $[\text{Mn}_{21}\text{O}_{24}(\text{OMe})_8(\text{O}_2\text{CCH}_2\text{tBu})_{16}(\text{H}_2\text{O})_{10}]$  (C) 2506
  - An Analogue of Cymantrene  $[(\eta^5\text{-C}_5\text{H}_5)\text{Mn}(\text{CO})_3]$  That Contains a Dimetalladithiacyclopentadienyl ring (C) 3034
  - An Iridaborane Reaction Cycle Driven by  $\text{PMe}_3$  and  $\text{BH}_3 \cdot \text{THF}$ : Synthesis and Characterization of  $[\text{Cp}^*\text{IrB}_3\text{H}_7(\text{PMe}_3)]$  and  $[\text{Cp}^*\text{IrB}_2\text{H}_6(\text{PMe}_3)]$  (C) 3860
  - Characterization of a Planar Cyclic Form of Water Hexamer in an Organic Supramolecular Complex: An Unusual Self-Assembly of Bimesityl-3,3'-Dicarboxylic Acid (C) 3417
  - Conversion of *arachno*-Nonaborane into Azanaborane: Unexpected Loss of a Firmly Integrated Boron Atom (C) 4498
  - Direct Electrophilic Insertion into a Twelve-Vertex Metallocarborane (C) 4112
  - Experimental Observation and Confirmation of Icosahedral  $\text{W@Au}_{12}$  and  $\text{Mo@Au}_{12}$  Molecules (C) 4786
  - Facile Construction of Anionic Silver(I) Aggregates with Embedded Acetylide and Cyanide Ions (C) 4135
  - Facile Syntheses of Copper(I) Alkynyl Clusters Stabilized by Hexafluoroacetylacetonate (hfac) Ligands: The Structure of  $[\text{Cu}_{26}(\text{hfac})_{11}(1\text{-pentynyl})_{15}]$  (C) 3038
  - $[\{\text{Fe}(\text{OMe})_2[\text{O}_2\text{CC}(\text{OH})\text{Ph}_2]\}_{12}]$ : Synthesis and Characterization of a New Member in the Family of Molecular Ferric Wheels with the Carboxylatobis(alkoxo) Bridging Unit (C) 2386
  - $[\text{Ga}_{22}[\text{N}(\text{SiMe}_3)_2]_{10}]^{2-}$ : A Metalloid Cluster Compound with a Variation of the  $\text{Ga}_{22}$  Framework (C) 1882
  - Heterodinuclear Transition-Metal Complexes with Multiple Metal–Metal Bonds (R) 3948
  - Heteropolymolybdates of  $\text{As}^{\text{III}}$ ,  $\text{Sb}^{\text{III}}$ ,  $\text{Bi}^{\text{III}}$ ,  $\text{Se}^{\text{IV}}$ , and  $\text{Te}^{\text{IV}}$  Functionalized by Amino Acids (C) 4070
  - Hypoelectronic Dimetallaboranes (H) 4220
  - Icosahedral  $\text{WAu}_{12}$ : A Predicted Closed-Shell Species, Stabilized by Auophilic Attraction and Relativity and in Accord with the 18-Electron Rule (C) 2174
  - Ligand-Templated Four-Metal Chains Dimerize into a Unique  $[\text{Cu}^{\text{II}}_8]$  Cluster (C) 1168
  - $\text{Ln}_3\text{Br}_{18}\text{B}_3$  ( $\text{Ln} = \text{Gd}, \text{Tb}$ )—A Compound Containing a Combination of Discrete and Condensed Clusters (C) 4257
  - Metalloid Aluminum and Gallium Clusters: Element Modifications on the Molecular Scale? (R) 3532 Corrigendum: 4170
  - “Molecular Symmetry Breakers” Generating Metal-Oxide-Based Nanoobject Fragments as Synthons for Complex Structures:
- $[\{\text{Mo}_{128}\text{Eu}_4\text{O}_{388}\text{H}_{10}(\text{H}_2\text{O})_{81}\}_2]^{20-}$ , a Giant-Cluster Dimer (C) 2805
- Octahedral Arrangement of Porphyrin Moieties around Hexarhenium(III) Cluster Cores: Structure of  $(\mu_3\text{-Selenido})\text{-hexa}(5\text{-}(4\text{-pyridyl})\text{-}10,15,20\text{-tritylporphyrin})\text{hexarhenium(III)} (2+)$  (C) 463
  - Octametallic and Hexadecametalliferic Wheels (C) 4318
  - $[\text{Pd}_3(\text{InCp}^*)_4(\mu_2\text{-InCp}^*)_4]$ : Three Linearly Arranged Palladium Atoms Wrapped into a Fluxional Shell of Eight  $\text{InCp}^*$  Ligands (C) 4761
  - Polyoxomolybdenum(V) Sulfite Complexes: Synthesis, Structural, and Physical Studies (C) 2801
  - Rational Synthesis of Tetranuclear Ruthenium Polyhydride Clusters and Their Mixed-Ligand Analogues (C) 4085
  - Reaction of 2-Butyne with *nido*-[1,2-( $\text{Cp}^*\text{RuH}_2$ ) $_2\text{B}_3\text{H}_7$ ]: Improved Kinetic Control Leads to Metallocarboranes of Novel Composition and Structure (C) 2578
  - Reactivity of Chalcogenostannate Salts: Unusual Synthesis and Structure of a Compound Containing Ternary Cluster Anions  $[\text{Co}_4(\mu_4\text{-Se})(\text{SnSe}_4)_4]^{10-}$  (C) 4269
  - SASAPOS, not Sisyphe: Highly Efficient 20-Step One-Pot Synthesis of a Discrete Organic–Inorganic Ion Cluster with a Porphyrin Core (C) 3815
  - Structural Transitions in Clusters (R) 1468
  - Supramolecular Cluster Catalysis: Benzene Hydrogenation Catalyzed by a Cationic Triruthenium Cluster under Biphasic Conditions (C) 99
  - Supramolecular Templating of the Double-Cubane  $[\{\text{Cu}_2(\text{Hpz}^{\text{tBu}})_6(\mu_3\text{-Cl})(\mu_3\text{-OH})_3\}_2\text{Cu}]_2\text{Cl}_6$  ( $\text{Hpz}^{\text{tBu}} = 5\text{-tert-Butylpyrazole}$ ) (C) 756
  - Syntheses and Crystal Structures of the New Ag–S Clusters  $[\text{Ag}_{70}\text{S}_{16}(\text{SPh})_{34}(\text{PhCO}_2)_4(\text{triphos})_4]$  and  $[\text{Ag}_{188}\text{S}_{94}(\text{PR}_3)_{30}]$  (C) 3818
  - Synthesis and Structures of Silver–Selenide Cluster Complexes  $[\text{Ag}_4(\text{SeiPr})_4(\text{dppm})_2]$ ,  $[\text{Ag}_8(\text{SeEt})_8(\text{dppp})]_\infty$ ,  $[\text{Ag}_{28}\text{Se}_6(\text{SenBu})_{16}(\text{dppp})_4]$ , and  $[\text{Ag}_{124}\text{Se}_{57}(\text{SePrBu}_2)_4\text{Cl}_6(\text{tBu}_2\text{P}(\text{CH}_2)_3\text{PrBu}_2)_{12}]$  (C) 300
  - Towards Stepwise Cluster Assembly: A Decacopper(II) Complex Obtained by Controlled Expansion of a Metallasiloxane Cage (C) 4517
  - Tuning Electronic Behavior of Carbonyl Metal Clusters by Substitution of Interstitial and Capping Atoms (C) 3685
  - Two  $[\text{Nb}_6\text{Cl}_9\text{O}_3(\text{CN})_6]^{3-}$  Isomer Anions in Two  $\text{Nb}_6$  Cluster Oxyhalides:  $\text{Cs}_5[\text{Nb}_6\text{Cl}_9\text{O}_3(\text{CN})_6] \cdot 4\text{H}_2\text{O}$  and  $(\text{Me}_4\text{N})_3[\text{Nb}_6\text{Cl}_9\text{O}_3(\text{CN})_6] \cdot 5\text{H}_2\text{O}$  (C) 3002
  - $^1[\text{HgGe}_9]^{2-}$ —A Polymer with Zintl Ions as Building Blocks Covalently Linked by Heteroatoms (C) 3213
- Coagulation
- Heparin–Protein Interactions (R) 390
- Cobalt
- Beltlike Macrocycles with Four and Eight (Cyclopentadienyl)(cyclobutadienyl)cobalt Building Blocks, Formed by Stepwise Oligomerization of 1,6-Cyclodecadiene Units (C) 1181
  - Bis(1,2,3,4- $\eta^4$ -anthracene)cobaltate(1–) (C) 1211
  - Cobalt-Catalyzed Coupling Reaction of Alkyl Halides with Allylic Grignard Reagents (C) 4137



- [Co<sub>5</sub>(im)<sub>10</sub>·2MB]<sub>∞</sub>: A Metal-Organic Open-Framework with Zeolite-Like Topology (C) 1384
- Development of a Co-Mediated Rearrangement Reaction (C) 2584
- Enantiopure β-Hydroxy Morpholine Amides from Terminal Epoxides by Carbonylation at 1 atm (C) 4703
- [Lewis Acid]<sup>+</sup>[Co(CO)<sub>4</sub>]<sup>-</sup> Complexes: A Versatile Class of Catalysts for Carbonylative Ring Expansion of Epoxides and Aziridines (C) 2781
- Reactivity of Chalcogenostannate Salts: Unusual Synthesis and Structure of a Compound Containing Ternary Cluster Anions [Co<sub>4</sub>(μ<sub>4</sub>-Se)(SnSe<sub>4</sub>)<sub>4</sub>]<sup>10-</sup> (C) 4269
- Shape Control of Thermodynamically Stable Cobalt Nanorods through Organometallic Chemistry (C) 4286
- Synthesis and Structure of a Biconcave Cobalt Perfluorophthalocyanine and Its Catalysis of Novel Oxidative Carbon-Phosphorus Bonds Formation by Using Air (C) 750
- Cofactors**
  - An Antibody that Reconstitutes the "Base-On" Form of B<sub>12</sub> Coenzymes (C) 3613
  - Biomimetic NAD<sup>+</sup> Models for Tandem Cofactor Regeneration, Horse Liver Alcohol Dehydrogenase Recognition of 1,4-NADH Derivatives, and Chiral Synthesis (C) 478
  - Phosphite Dehydrogenase: A Versatile Cofactor-Regeneration Enzyme (C) 3257
  - Regiospecific Inverse-Electron-Demand Diels-Alder Reaction of Simultaneously Electrogenated Diene and Dienophile: An Expeditious Route to Polyfunctionalized 1,4-Benzoxazine Derivatives (C) 824
- Colloids**
  - A Nanoscale Hybrid System Based on Gold Nanoparticles and Heteropolyanions (C) 501
  - Aqueous Catalytic Polymerization of Olefins (R) 544
  - Dual Biosensing by Magneto-Controlled Bioelectrocatalysis (C) 1343
  - Fabrication of a Metal-Coated Three-Dimensionally Ordered Macroporous Film and its Application as a Refractive Index Sensor (C) 1153
  - Immobilized Highly Charged Colloidal Crystals: A New Route to Three-Dimensional Mesoscale Structured Materials (C) 102
  - Ligand Design and Bioconjugation of Colloidal Gold Nanoparticles (C) 3218
  - Molecular Dynamic Computer Simulations of Phase Behavior of Non-Ionic Surfactants (C) 983
  - Nanoscopic Pt Colloids in the "Embryonic State" (C) 4041
  - One-Step Preparation of Block Copolymer Vesicles with Preferentially Segregated Acidic and Basic Corona Chains (C) 1001
  - Patterning of a Colloidal Crystal Film on a Modified Hydrophilic and Hydrophobic Surface (C) 2067
  - Self-Assembly of ZnO: From Nanodots to Nanorods (C) 1188
  - Spontaneous Deposition of Water-Soluble Substances into Microcapsules: Phenomenon, Mechanism, and Application (C) 3789
- Combinatorial chemistry**
  - Click Chemistry In Situ: Acetylcholinesterase as a Reaction Vessel for the Selective Assembly of a Femtomolar Inhibitor from an Array of Building Blocks (C) 1053
  - Combinatorial Libraries with P-Functionalized Aminopyridines: Ligands for the Preparation of Efficient C(Aryl)-Cl Activation Catalysts (C) 1521
  - Directing Otherwise Incompatible Reactions in a Single Solution by Using DNA-Templated Organic Synthesis (C) 4104
  - Dynamic Acylhydrazone Metal Ion Complex Libraries: A Mixed-Ligand Approach to Increased Selectivity in Extraction (C) 4096
  - Enzymatic Generation and In Situ Screening of a Dynamic Combinatorial Library of Sialic Acid Analogues (C) 3405
  - From Protein Domains to Drug Candidates—Natural Products as Guiding Principles in the Design and Synthesis of Compound Libraries (R) 2878
  - Generation of Libraries of Pharmacophoric Structures with Increased Complexity and Diversity by Employing Polymorphic Scaffolds (C) 3677
  - Glycosamino Acids: Building Blocks for Combinatorial Synthesis—Implications for Drug Discovery (R) 230
  - High-Throughput Multilevel Performance Screening of Advanced Materials (C) 4230
  - High-Throughput Screening of Enantioselective Catalysts by Immunoassay (C) 124
  - How to Make a DNA Chip (R) 1276
  - Modern Separation Techniques for the Efficient Workup in Organic Synthesis (R) 3964
  - Natural Product Derived Receptor Tyrosine Kinase Inhibitors: Identification of IGF1R, Tie-2, and VEGFR-3 Inhibitors (C) 1174
  - Natural Products Are Biologically Validated Starting Points in Structural Space for Compound Library Development: Solid-Phase Synthesis of Dysidiolide-Derived Phosphatase Inhibitors (C) 307
  - New Methods for the High-Throughput Screening of Enantioselective Catalysts and Biocatalysts (H) 1335
  - Solid-Phase Synthesis and Biological Evaluation of a Peptidocinnamin E Library (C) 3616
  - The Role of Nucleation Inhibition in Optical Resolutions with Families of Resolving Agents (C) 4281
  - Traceless Solid-Phase Synthesis of 2-Aminothiazoles: Receptor Tyrosine Kinase Inhibitors with Dual Selectivity for Tie-2 and VEGFR-2 (C) 4757
  - ULTRA Loaded Resins Based on the Cross-Linking of Linear Poly(ethylene imine). Improving the Atom Economy of Polymer-Supported Chemistry (C) 2975 Corrigendum: 3313
- Combinatorial libraries**
  - Dynamic Covalent Chemistry (R) 898 Corrigendum: 1460
- Complexation mechanism**
  - Mechanistic Features, Cooperativity, and Robustness in the Self-Assembly of Multicomponent Silver(I) Grid-Type Metalloarchitectures (C) 2760 Corrigendum: 3738
- Complexity**
  - Autonomous Movement and Self-Assembly (C) 652
- Computer chemistry**
  - A Method To Identify and Screen Libraries of Guests That Complex to a Synthetic Host (C) 1004
  - Computational Prediction of the Phase Transformation of Two As-Synthesized Oxyfluorinated Compounds into the Zeotype CHA Forms (C) 972
  - Molecular Dynamic Computer Simulations of Phase Behavior of Non-Ionic Surfactants (C) 983
  - Relativity, Gold, Closed-Shell Interactions, and CsAu·NH<sub>3</sub> (M) 3573
  - Surface Structure and Crystal Growth of Zeolite Beta C (C) 1235
- Condensation**
  - Traube's "Oxazomalonic Acid" is a 3-Hydroxysydnone Carboxylate with an E-ONNO Geometry (C) 2089
- Conducting materials**
  - Chain Compounds Based on Transition Metal Backbones: New Life for an Old Topic (H) 4453
  - Colorimetric and Fluorometric Detection of Nucleic Acids Using Cationic Polythiophene Derivatives (C) 1548
  - Direct Assembly of Large Arrays of Oriented Conducting Polymer Nanowires (C) 3665
  - Erodible Conducting Polymers for Potential Biomedical Applications (C) 141
  - Fabrication of Ultrafine Conducting Polymer and Graphite Nanoparticles (C) 4016
  - Self-Assembled, Deterministic Carbon Nanotube Wiring Networks (C) 353
  - Structural Dependence of Redox-Induced Dimerization as Studied by In Situ ESR/UV/Vis-NIR Spectroelectrochemistry: The Fluoranthenopyracylene Oligomers (C) 2082
  - Supramolecular-Wire Confinement of I<sub>2</sub> Molecules in Channels of the Organic Zeolite Tris(*o*-phenylenedioxy)cyclotriphosphazene (C) 2281
  - Tuning the Electrical Conductivity and Self-Assembly of Regioregular Polythiophene by Block Copolymerization: Nanowire Morphologies in New Di- and Triblock Copolymers (C) 329
  - Valence-Ordering Structures and Magnetic Behavior of Metallic MMX Chain Compounds (C) 2767
  - Water-Insoluble Lanthanum Oxochloride-Based Solid Electrolytes with Ultra-High Chloride Ion Conductivity (C) 3890
- Configuration determination**
  - Assignment of Stereochemistry of Facially Protected Bis-porphyrins by Use of a "Molecular Ruler" (C) 1709
  - Callipeltoside A: Assignment of Absolute and Relative Configuration by Total Synthesis (C) 841
  - Configurational Stability and Transfer of Stereochemical Information in the Reactions of Enantioenriched Organolithium Reagents (R) 716
  - The Determination of the Absolute Configurations of Diastereomers of (*S*)-Camphanoyl 3-Hydroxy-5-oxohexanoic Acid Derivatives by X-ray Crystallography (C) 1198
  - Total Synthesis of (±)-Otteliones A and B (C) 2396
  - Total Synthesis of the Natural Enantiomer of (-)-Lepadiformine and Determination of Its Absolute Stereochemistry (C) 3017

## Configuration inversion

- Enantioselective Stereoinversion in the Kinetic Resolution of *rac-sec*-Alkyl Sulfate Esters by Hydrolysis with an Alkyl-sulfatase from *Rhodococcus ruber* DSM 44541 Furnishes Homochiral Products (C) 4052

## Conformational flexibility

- Conformationally Flexible, Chiral Quaternary Ammonium Bromides for Asymmetric Phase-Transfer Catalysis (C) 1551

## Conformation analysis

- Cation Control in Functional Helical Programming: Structures of a D,L-Peptide Ion Channel (C) 4062
- *cis*-2-Aminocyclopentanecarboxylic Acid Oligomers Adopt a Sheetlike Structure: Switch from Helix to Nonpolar Strand (C) 1718
- Conformational Locking of the Glycosyl Acceptor for Stereocontrol in the Key Step in the Synthesis of Heparin (C) 2128
- Conformation-Dependent Ionization Energies of L-Phenylalanine (C) 4114
- 4,4-Diphenyl-2,5-cyclohexadienone: Four Polymorphs and Nineteen Crystallographically Independent Molecular Conformations (C) 3848 Corrigendum: 4370
- Intramolecular 1,8-Hydrogen Abstraction Between Glucopyranose Units in a Disaccharide Model Promoted by Alkoxy Radicals (C) 856
- Photoresponsive Cyclic Bis(cysteiny)l-peptides as Catalysts of Oxidative Protein Folding (C) 289
- RNA Two-State Conformation Equilibria and the Effect of Nucleobase Methylation (C) 605
- Teaching the Right Reasons: Lessons from the Mistaken Origin of the Rotational Barrier in Ethane (E) 3579
- The Structure of Neutral Proline (C) 4673

## Conjugation

- Cyanoethynylethenes: A Class of Powerful Electron Acceptors for Molecular Scaffolding (C) 3044
- Ligand Design and Bioconjugation of Colloidal Gold Nanoparticles (C) 3218
- Oligo(phenylenevinylene)s with Terminal Donor–Acceptor Substitution (C) 292
- Poly(*p*-phenylenephosphalkene): A  $\pi$ -Conjugated Macromolecule Containing P=C Bonds in the Main Chain (C) 2389

## Cooperative effects

- Guest Preorganization: An Alternative “Bioinspired” Paradigm in Host–Guest Chemistry (C) 3259
- Helical Sense Bias Induced by Point Chirality in Cage Compounds (C) 1205
- Mechanistic Features, Cooperativity, and Robustness in the Self-Assembly of Multicomponent Silver(I) Grid-Type Metalloarchitectures (C) 2760 Corrigendum: 3738
- Mimicking Metallophosphatases: Revealing a Role for an OH Group with No Libido (C) 849
- Novel Synthetic Approach to Trinuclear 3d-4f Complexes: Specific Exchange of the Central Metal of a Trinuclear Zinc(II) Complex of a Tetraoxime Ligand with a Lanthanide(III) Ion (C) 4670
- Remarkable Boosting of the Binding of Ion-Paired Organic Salts by Binary Host Systems (C) 2122

## Coordination modes

- Activation of the Tertiary Carboxamide C–N Bond in Werner Complexes: A

## Classical Structure–Function Relationship (C) 3386

- A Structurally Characterized Chromium(III) Superoxide Complex Features “Side-on” Bonding (C) 2333
- “Asymmetric” Catalysis by Lanthanide Complexes (R) 3554
- A Three-Dimensional Homometallic Molecular Ferrimagnet (C) 1561
- A Triple-Decker Complex with a Central Metallabenzene (C) 1589
- Bridging the Gap between Polyoxometalates and Classic Coordination Compounds: A Novel Type of Hexavanadate Complex (C) 2523
- Coordinative Unsaturation in Platinum(IV) Chemistry: From Proposed Reaction Intermediates to the First Structurally Characterized Complexes (H) 261
- Di-, Tri-, and Tetracopper(II) Complexes of a Pseudocalixarene Macrocyclic (C) 4553
- Dynamic Acylhydrazone Metal Ion Complex Libraries: A Mixed–Ligand Approach to Increased Selectivity in Extraction (C) 4096
- Gold–Xenon Complexes (C) 454
- Macromolecules Containing Bipyridine and Terpyridine Metal Complexes: Towards Metallosupramolecular Polymers (R) 2892
- Synthesis and Stereoselective Self-Assembly of Double- and Triple-Stranded Helicates (C) 2086
- The First “Naked” Primary Phosphanide Anion [ArPH]<sup>–</sup> (C) 1193
- Unprecedented Ferromagnetic Interaction in Homobinuclear Erbium and Gadolinium Complexes: Structural and Magnetic Studies (C) 323

## Coordination polymers

- [Co<sub>5</sub>(im)<sub>10</sub>·2MB]<sub>∞</sub>: A Metal–Organic Open-Framework with Zeolite-Like Topology (C) 1384
- Crystal Engineering of Mixed-Metal Ru–Ag Coordination Networks by Using the *trans*-[RuCl<sub>2</sub>(pyz)<sub>4</sub>] (pyz = pyrazine) Building Block (C) 1907
- Noninterpenetrating Square-Grid Coordination Polymers With Dimensions of 25 × 25 Å<sup>2</sup> Prepared by Using *N,N'*-Type Ligands: The First Chiral Square-Grid Coordination Polymer (C) 583
- Novel, Acentric Metal–Organic Coordination Polymers from Hydrothermal Reactions Involving In Situ Ligand Synthesis (C) 3800
- Pentaphosphaferrocene as a Linking Unit for the Formation of One- and Two-Dimensional Polymers (C) 1737
- P<sub>2</sub>-Ligand Complexes as Building Blocks for the Formation of One-Dimensional Polymers (C) 783
- QMOF-1 and QMOF-2: Three-Dimensional Metal–Organic Open Frameworks with a Quartzlike Topology (C) 4471
- Rational Design of Homochiral Solids Based on Two-Dimensional Metal Carboxylates (C) 1159

## CO oxidation

- Real-Time Photoacoustic Parallel Detection of Products from Catalyst Libraries (C) 2966

## Cope rearrangement

- Sigmatropic Shiftamers: Fluxionality in Broken Ladderane Polymers (C) 1033

## Copolymerization

- Infinite Secondary Building Units and Forbidden Catenation in Metal–Organic Frameworks (C) 284

- Synthesis of A,B-Alternating Copolymers by Ring-Opening-Insertion-Metathesis Polymerization (C) 3839

## Copolymers

- Micro/Nanoengineering of the Self-Organized Three-Dimensional Fibrous Structure of Functional Materials (C) 3641 Corrigendum: 4610
- Water-Soluble Stimuli-Responsive Vesicles from Peptide-Based Diblock Copolymers (C) 1339

## Copper

- A Cluster Rearrangement of an Open Cubane (Cu<sub>4</sub>Br<sub>4</sub>) to a Prismane (Cu<sub>6</sub>Br<sub>6</sub>) in a Copper(I)–Olefin Network (C) 2944
- Activation of the Tertiary Carboxamide C–N Bond in Werner Complexes: A Classical Structure–Function Relationship (C) 3386
- A New Pd<sup>0</sup>–Cu<sup>I</sup> Bimetallic Catalyst for the Synthesis of Indoles from Isocyanates and Allyl Carbonates (C) 3230
- A New Synthesis Route to Enantiomerically Pure Jasmonoids (C) 4054
- An Inclusion Complex with [Gd(dmf)<sub>8</sub>]<sup>3+</sup> Ions Encapsulated in Pockets of an Anionic Array of [Cu<sub>6</sub>(CN)<sub>9</sub>]<sup>3–</sup> Units; A Cyanide-Bridged Cu–Gd Layer Structure (C) 3609
- An Inverted Metal–Organic Framework with Compartmentalized Cavities Constructed by Using an Organic Bridging Unit Derived from the Solid State (C) 2070
- A Pillared-Layer Coordination Polymer Network Displaying Hysteretic Sorption: [Cu<sub>2</sub>(pzdc)<sub>2</sub>(dpyg)]<sub>n</sub> (pzdc = Pyrazine-2,3-dicarboxylate; dpyg = 1,2-Di(4-pyridyl)glycol) (C) 133
- Aryl C–H Activation by Cu<sup>II</sup> To Form an Organometallic Aryl–Cu<sup>III</sup> Species: A Novel Twist on Copper Disproportionation (C) 2991 Corrigendum: 4370
- Assembly of a Face-to-Face Tetranuclear Copper(I) Complex as a Host for an Anthracene Guest (C) 975
- Assembly of a Nanoscale Chiral Ball through Supramolecular Aggregation of Bowl-Shaped Triangular Helicates (C) 4244
- A Stepwise Huisgen Cycloaddition Process: Copper(I)-Catalyzed Regioselective “Ligation” of Azides and Terminal Alkynes (C) 2596
- A Structural and Functional Model of Galactose Oxidase: Control of the One-Electron Oxidized Active Form through Two Differentiated Phenolic Arms in a Tripodal Ligand (C) 3047
- Bis( $\mu$ -oxo)dimetal “Diamond” Cores in Copper and Iron Complexes Relevant to Biocatalysis (R) 1114 Corrigendum: 1821
- Copper-Catalyzed Oxidative Heterocyclization by Atmospheric Oxygen (C) 2962
- Copper-Catalyzed Reductive Alkylations of Enones: A Novel Transmetalation Protocol (C) 4580
- Discriminating Chiral Molecules of (*R*)-PPA and (*S*)-PPA in Aqueous Solution by ECSTM (C) 3408
- Di-, Tri-, and Tetracopper(II) Complexes of a Pseudocalixarene Macrocyclic (C) 4553
- Enantioselective Synthesis of and with Allenes (H) 2933
- Facile Syntheses of Copper(I) Alkynyl Clusters Stabilized by Hexafluoroacetyl-

- acetone (hfac) Ligands: The Structure of  $[\text{Cu}_{26}(\text{hfac})_{11}(1\text{-pentynyl})_{15}]$  (C) 3038
- Hybrid Metallocorones or One-Dimensional Oxo-Bridged Metal Strings by Self-Assembly—Coordination Number Controlled Product Formation (C) 304
  - Hydroxylation of N-Heterocycle Ligands Observed in Two Unusual Mixed-Valence  $\text{Cu}^{\text{I}}/\text{Cu}^{\text{II}}$  Complexes (C) 1029
  - Ligand-Templated Four-Metal Chains Dimerize into a Unique  $[\text{Cu}^{\text{II}}_8]$  Cluster (C) 1168
  - Low-Temperature Stopped-Flow Studies on the Reactions of Copper(II) Complexes and  $\text{H}_2\text{O}_2$ : The First Detection of a Mononuclear Copper(II)–Peroxo Intermediate (C) 4325
  - Noninterpenetrating Square-Grid Coordination Polymers With Dimensions of  $25 \times 25 \text{ \AA}^2$  Prepared by Using  $N,N'$ -Type Ligands: The First Chiral Square-Grid Coordination Polymer (C) 583
  - Pentaphosphaferrocene as a Linking Unit for the Formation of One- and Two-Dimensional Polymers (C) 1737
  - $\text{P}_2$ -Ligand Complexes as Building Blocks for the Formation of One-Dimensional Polymers (C) 783
  - Preparation of Resolved Fourfold Symmetric Amphiphilic Helices Using Chiral Metallocrown Building Blocks (C) 4667
  - Selective Measurements of a Nitroxide–Nitroxide Separation of 5 nm and a Nitroxide–Copper Separation of 2.5 nm in a Terpyridine-Based Copper(II) Complex by Pulse EPR Spectroscopy (C) 3907
  - Self-Assembly of Trigonal-Prismatic Metallocages Encapsulating  $\text{BF}_4^-$  or  $\text{CuI}_2^{2-}$  as Anionic Guests: Structures and Mechanism of Formation (C) 3371
  - Signal Amplification by a Fluorescent Indicator of a pH-Driven Intramolecular Translocation of a Copper(II) Ion (C) 2553
  - Supramolecular Templating of the Double-Cubane  $[(\text{Cu}_3(\text{Hpz}^{\text{bu}})_6(\mu_3\text{-Cl})(\mu_3\text{-OH}))_3\text{Cu}](\text{Hpz}^{\text{bu}} = 5\text{-tert-Butylpyrazole})$  (C) 756
  - Synthesis and Structural Characterization of Organometallic Cyclines: Novel Nanoscale, Carbon-Rich Topologies (C) 2378
  - Synthesis, Spectroscopy, and Solid-State Structural Characterization of the Hexanuclear Copper Macrocyclic  $[\text{Cu}_6\text{Cl}_6(\mu\text{-PCHP})_6]$  (C) 2571
  - Targeted Synthesis of Ferromagnetically Coupled Complexes with Modified 1,3,5-Trihydroxybenzene Ligands (C) 3823
  - Template-Directed Synthesis of Helical Phenanthroline Cyclophanes (C) 4520
  - The Chemistry of the Oxychlorination Catalyst: an In Situ, Time-Resolved XANES Study (C) 2341
  - The First Water-Soluble Copper(I) Calix[6]arene Complex Presenting a Hydrophobic Ligand Binding Pocket: A Remarkable Model for Active Sites in Metalloenzymes (C) 1044
  - Towards Stepwise Cluster Assembly: A Decacopper(II) Complex Obtained by Controlled Expansion of a Metallasiloxane Cage (C) 4517
- Correspondence
- Comment on the Communication “Highly Efficient White Organic Electroluminescence from a Double-Layer Device Based on a Boron Hydroxyphenylpyridine Complex” by Wang et al. (L) 2273
  - Comment on the X-Ray Structure of Pentamethylcyclopentadienyl Cation (L) 2276
  - Electrocyclization of (Z)-1,2,4,6-Heptatetraene and its Heterosubstituted Analogues: Pericyclic or Pseudopericyclic? (L) 1147
  - Microwave-Assisted Reactions in Organic Synthesis—Are There Any Non-thermal Microwave Effects? Response to the Highlight by N. Kuhnert (L) 3589
  - Reply (L) 1150, 2274
  - Statement (L) 2278
  - The Stable Pentamethylcyclopentadienyl Cation Remains Unknown (L) 2275
- Corrigenda 16, 382, 1460, 1642, 1821, 2226, 2227, 2436, 3085, 3313, 3738, 4170, 4370, 4610, 4611, 4612
- Coupling reactions
- A New Generation of Air Stable, Highly Active Pd Complexes for C–C and C–N Coupling Reactions with Aryl Chlorides (C) 3668
  - Expanding the Reaction Scope of DNA-Templated Synthesis (C) 1796
- CP molecules
- The CP Molecule Labyrinth: A Paradigm of How Endeavors in Total Synthesis Lead to Discoveries and Inventions in Organic Synthesis (R) 2678
- Cross-coupling
- A Convenient Oxime-Carbapalladacycle-Catalyzed Suzuki Cross-Coupling of Aryl Chlorides in Water (C) 179
  - A Method for Palladium-Catalyzed Cross-Couplings of Simple Alkyl Chlorides: Suzuki Reactions Catalyzed by  $[\text{Pd}_2(\text{dba})_3]/\text{PCy}_3$  (C) 1945
  - A Model Nucleoside for Electron Injection into DNA: 5-Pyrenyl-2'-Deoxyribose (C) 2978
  - A One-Pot Cross-Metathesis/Allylboration Reaction: A Three-Component Coupling for the Synthesis of Functionalized Homoallylic Alcohols (C) 807
  - Cobalt-Catalyzed Coupling Reaction of Alkyl Halides with Allylic Grignard Reagents (C) 4137
  - Evaluation of Diene Hierarchies for Diels–Alder Reactions En Route to Xestocyclamine A: Elaboration of an Ansa Bridge by B-Alkyl Suzuki Macrocyclization (C) 1581 Corrigendum: 3085
  - Formal Vinyl C–H Activation and Allylic Oxidation by Olefin Metathesis (C) 3171
  - General Preparation of Functionalized *o*-Nitroarylmagnesium Halides through an Iodine–Magnesium Exchange (C) 1610
  - Highly Efficient Catalytic Synthesis of Substituted Allenes Using Indium (C) 3901
  - Iron-Catalyzed Cross-Coupling Reactions of Alkyl-Grignard Reagents with Aryl Chlorides, Tosylates, and Triflates (C) 609
  - Palladium-Catalyzed Coupling of Alkyl Chlorides and Grignard Reagents (C) 4056
  - Palladium-Catalyzed Coupling Reactions of Aryl Chlorides (R) 4176
  - “Polysaturated” Cyclophanes (H) 4003
  - Profound Steric Control of Reactivity in Aryl Halide Addition to Bisphosphane Palladium(0) Complexes (C) 1760
  - Samarium Diiodide-Induced Reductive Cross-Coupling of Nitrones with Aldehydes and Ketones (C) 1772
  - Synthesis of A,B-Alternating Copolymers by Ring-Opening-Insertion-Metathesis Polymerization (C) 3839
  - Total Synthesis of the Presumed Amphidinolide A (C) 508
  - Triazenes: A Versatile Tool in Organic Synthesis (R) 3338
- Cross-linking
- Gram-Scale Synthesis of Suspension-Polymerized Styrene–Divinylbenzene-Based Resins Using an Oscillatory Baffled Reactor (C) 3656
- Crown compounds
- A Ring-in-Ring Complex (C) 270
  - Controlled Release of a Dendritically Encapsulated Template Molecule (C) 3254
  - Hexameric Mg–O Stacks with Six THF-Solvated Sodium Amide Appendages: “Super” Variants of Inverse Crown Ethers Generated by Cleavage of THF (C) 2382
  - Preparation of Resolved Fourfold Symmetric Amphiphilic Helices Using Chiral Metallocrown Building Blocks (C) 4667
- Cryptands
- $\text{Mo}^{\text{V}}$ /Pyrophosphate Polyoxometalate: An Inorganic Cryptate (C) 2808
  - Parallels in Cation and Anion Coordination: A New Class of Cascade Complexes (C) 2335
- Crystal engineering
- A Cluster Rearrangement of an Open Cubane ( $\text{Cu}_4\text{Br}_4$ ) to a Prismane ( $\text{Cu}_6\text{Br}_6$ ) in a Copper(I)–Olefin Network (C) 2944
  - A Nanoporous Metal–Organic Framework Based on Bulky Phosphane Ligands (C) 764
  - A Pillared-Layer Coordination Polymer Network Displaying Hysteretic Sorption:  $[\text{Cu}_2(\text{pzdc})_2(\text{dpyg})]_n$  (pzdc = Pyrazine-2,3-dicarboxylate; dpyg = 1,2-Di(4-pyridyl)glycol) (C) 133
  - $[\text{Co}_5(\text{im})_{10}\cdot 2\text{MB}]_{\infty}$ : A Metal–Organic Open-Framework with Zeolite-Like Topology (C) 1384
  - Crystal Engineering of a Nanoscale Kagomé Lattice (C) 2821
  - Hydrogen-Bonded Helices in Crystals with Prescribed Organization (C) 1724
  - Observation of Uniaxial Negative Thermal Expansion in an Organic Crystal (C) 754
  - Rational Design of Homochiral Solids Based on Two-Dimensional Metal Carboxylates (C) 1159
  - Reaction Principles and Crystal Structure Design for the Topochemical Polymerization of 1,3-Dienes (C) 2502
- Crystal growth
- A Reactive Intermediate in the Synthesis of Iron Arsenates: Synthesis of the First One-Dimensional Iron Arsenate Oxalate and Its Transformation into Two- and Three-Dimensional Iron Arsenates (C) 1224
  - General Synthesis of Semiconductor Chalcogenide Nanorods by Using the Monodentate Ligand *n*-Butylamine as a Shape Controller (C) 4697
  - Hydrothermal Synthesis of Molecular Sieve Fibers: Using Microemulsions To Control Crystal Morphology (C) 476
  - Micro/Nanoengineering of the Self-Organized Three-Dimensional Fibrous Structure of Functional Materials (C) 3641 Corrigendum: 4610
  - Morphosynthesis of Octacalcium Phosphate Hollow Microspheres by Polyelectrolyte-Mediated Crystallization (C) 2163

- Self-Assembly of ZnO: From Nanodots to Nanorods (C) 1188
- Surface Structure and Crystal Growth of Zeolite Beta C (C) 1235
- Synthesis of Very Thin 1D and 2D CdWO<sub>4</sub> Nanoparticles with Improved Fluorescence Behavior by Polymer-Controlled Crystallization (C) 2356
- The Supercritical Fluid Antisolvent Synthesis of C<sub>60</sub>(C<sub>2</sub>H<sub>4</sub>) (*x*=4 or 6); The Crystal Structures of Two Materials Which Were Thought Unlikely to Exist (C) 3796
- Three-Dimensional Organically Templated Open-Framework Transition Metal Selenites (C) 158
- Cubanes
  - A Cluster Rearrangement of an Open Cubane (Cu<sub>4</sub>Br<sub>4</sub>) to a Prismane (Cu<sub>6</sub>Br<sub>6</sub>) in a Copper(I)–Olefin Network (C) 2944
  - Expanded Cubane: Synthesis of a Cage Compound with a C<sub>36</sub> Core by Acetylenic Scaffolding and Gas-Phase Transformations into Fullerenes (C) 4339
- Cucurbiturils
  - “Molecular” Molecular Sieves: Lid-Free Decamethylcucurbit[5]uril Absorbs and Desorbs Gases Selectively (C) 3020
  - Of Molecular Gyroscopes, Matroshka Dolls, and Other “Nano”-Toys (H) 1513
  - Supramolecular Amphiphiles: Spontaneous Formation of Vesicles Triggered by Formation of a Charge-Transfer Complex in a Host (C) 4474 Corrigendum: 4612
- Culinary processes
  - Molecular Gastronomy (E) 83
- Cumulenes
  - Crystal Structure Analysis of 1,1,4,4-Tetrafluorobutadiene and Experimental Determination of the Charge Density of 1,1,4,4-Tetrafluorobutatriene (C) 296
  - Generation of Polyunsaturated Cumulene Chains by Unprecedented Insertions of the Ynamine MeC≡CNEt<sub>2</sub> in Ruthenium(II) Allenylidene Complexes (C) 3439
  - Tetraiodobutatriene: A New Cumulenic Carbon Iodide (C) 3011
  - Unprecedented Coupling of Allenylidene and Diynyl Metal Complexes: A Bimetallic Ruthenium System with a C<sub>7</sub> Conjugated Bridge (C) 4513
- Cuprates
  - Efficient and General Synthetic Approach to Pentasubstituted Conjugated Dienes Using Site-Selective Coupling of Cuprates with 1,4-Diiodo-1,3-alkadienes as the Key Reaction (C) 3023
  - Sterically Hindered Lithium Dialkylcuprates for the Generation of Highly Functionalized Mixed Cuprates through a Halogen–Copper Exchange (C) 3263
- Curvature stabilization
  - One-Step Preparation of Block Copolymer Vesicles with Preferentially Segregated Acidic and Basic Corona Chains (C) 1001
- Cyanamides
  - Cyanamide Synthesis by the Palladium-Catalyzed Cleavage of a Si–N Bond (C) 1780
- Cyanation
  - An Asymmetric Cyanation Reaction and Sequential Asymmetric Cyanation–Nitroaldol Reaction Using a [YLi<sub>3</sub>{tris(bisnaphthoxide)}] Single Catalyst Component: Catalyst Tuning with Achiral Additives (C) 3636
- Cyanides
  - A Click Chemistry Approach to Tetrazoles by Huisgen 1,3-Dipolar Cycloaddition: Synthesis of 5-Acyltetrazoles from Azides and Acyl Cyanides (C) 2113
  - A Click Chemistry Approach to Tetrazoles by Huisgen 1,3-Dipolar Cycloaddition: Synthesis of 5-Sulfonyl Tetrazoles from Azides and Sulfonyl Cyanides (C) 2110
  - An Inclusion Complex with [Gd(dmf)<sub>8</sub>]<sup>3+</sup> Ions Encapsulated in Pockets of an Anionic Array of [Cu<sub>6</sub>(CN)<sub>9</sub>]<sup>3–</sup> Units; A Cyanide-Bridged Cu–Gd Layer Structure (C) 3609
  - Facile Construction of Anionic Silver(I) Aggregates with Embedded Acetylide and Cyanide Ions (C) 4135
  - Towards Stepwise Cluster Assembly: A Decacopper(II) Complex Obtained by Controlled Expansion of a Metallasiloxane Cage (C) 4517
  - Two [Nb<sub>6</sub>Cl<sub>6</sub>O<sub>3</sub>(CN)<sub>6</sub>]<sup>5–</sup> Isomer Anions in Two Nb<sub>6</sub> Cluster Oxyhalides: Cs<sub>3</sub>[Nb<sub>6</sub>Cl<sub>6</sub>O<sub>3</sub>(CN)<sub>6</sub>]·4 H<sub>2</sub>O and (Me<sub>4</sub>N)<sub>5</sub>[Nb<sub>6</sub>Cl<sub>6</sub>O<sub>3</sub>(CN)<sub>6</sub>]·5 H<sub>2</sub>O (C) 3002
- Cyanoethynylethenes
  - Cyanoethynylethenes: A Class of Powerful Electron Acceptors for Molecular Scaffolding (C) 3044
- Cyanohydriins
  - Aluminum-Catalyzed Asymmetric Addition of TMSCN to Aromatic and Aliphatic Ketones Promoted by an Easily Accessible and Recyclable Peptide Ligand (C) 1009
  - *cis*–*trans* Selectivity of Enzyme-Catalyzed Additions to 4-Substituted Cyclohexanones—Correlation with the Prelog/Ringold Model of Enzymatic Hydrogenation (C) 1876
- Cyclic voltammetry
  - A Supramolecular Array of Fullerenes by Quadruple Hydrogen Bonding (C) 838
  - Cyanoethynylethenes: A Class of Powerful Electron Acceptors for Molecular Scaffolding (C) 3044
  - Dual Biosensing by Magneto-Controlled Bioelectrocatalysis (C) 1343
  - Ionic Liquids Containing Anionic Selenium Species: Applications for the Oxidative Carbonylation of Aniline (C) 4300
  - Irreversible Adsorption of Cellobiose, Ascorbic Acid, and Tyrosine to Hydrophobic Surfaces in Water and Their Separation by Molecular Stirring (C) 2730
  - Structural Dependence of Redox-Induced Dimerization as Studied by In Situ ESR/UV/Vis-NIR Spectroelectrochemistry: The Fluoranthenopyracylene Oligomers (C) 2082
- Cyclization
  - A New Method for the Synthesis of Cycloheptenones by Rh<sup>I</sup>-Catalyzed Intramolecular Hydroacylation of 4,6-Dienals (C) 1218
  - A New Method for the Synthesis of Nonsymmetrical Sulfamides Using Burgess-Type Reagents (C) 3866
  - A Route to 5-Substituted Dibenzofurans by Anionic Cycloaromatization of 2-(6-substituted 3-hexen-1,5-diynyl)phenyl *tert*-butyldimethyl ethers and Related Molecules (C) 4077
  - Atom-Transfer Tandem Radical Cyclization Reactions Promoted by Lewis Acids (C) 3014
  - Concise Total Synthesis of (–)-Frondosin B Using a Novel Palladium-Catalyzed Cyclization (C) 1569
  - Dearomatizing Disrotatory Electrocyclic Ring Closure of Lithiated *N*-Benzoyloxazolines (C) 1049
  - Development of a Co-Mediated Rearrangement Reaction (C) 2584
  - Diastereoselective Synthesis of *trans*-1,2-Dialkylcyclopropanols by the Kulinkovich Hydroxycyclopropanation of Homoallylic Alcohols (C) 2160
  - Efficient and Simple Solid-Phase Synthesis of Short Cyclic Oligodeoxynucleotides Bearing a Phosphorothioate Linkage (C) 3704
  - Enantioselective Synthesis of Kedarcidin Chromophore Aglycon in Differentially Protected Form (C) 1062
  - Exceptional Rate Enhancements and Improved Diastereoselectivities through Chelating Diamide Coordination in Intramolecular Alkene Hydroaminations Catalyzed by Yttrium and Neodymium Amido Complexes (C) 3645 Corrigendum: 4170
  - Highly Diastereo- and Enantioselective Intramolecular Amidation of Saturated C–H Bonds Catalyzed by Ruthenium Porphyrins (C) 3465
  - Highly Selective Formation of Eight-Membered-Ring Systems by Oxidative Cyclization with Molybdenum Pentachloride—An Environmentally Friendly and Inexpensive Access to 2,2'-Cycloignans (C) 2981
  - Mechanisms of Sulfanyl (RS) Migrations: Synthesis of Heterocycles (R) 2462
  - Oxidative Cyclization–Dimerization Reaction of 2,3-Allenic Acids and 1,2-Allenyl Ketones: An Efficient Synthesis of 4-(3'-Furanyl)butenolide Derivatives (C) 1775
  - Palladium-Catalyzed Regio- and Diastereoselective Tandem Silastannylation/Allyl Addition of Allene Aldehydes and Allene Ketones: Synthesis of *cis* Cyclopentanols and Cyclohexanols (C) 343
  - Pd<sup>0</sup>-Catalyzed Three-Component Tandem Double-Addition–Cyclization Reaction: Stereoselective Synthesis of *cis*-Pyrrolidine Derivatives (C) 4737
  - Sequential Base-Promoted Annulation/Palladium-Catalyzed Domino 1,5-Enyne Arylation and Vinylation of  $\alpha$ -Propargylaminohydrazones (C) 1400
  - Stereoselective Prins Cyclizations of  $\delta,\epsilon$ -Unsaturated Ketones to *cis*-3-Chlorocyclohexanols with TiCl<sub>4</sub> (C) 491
  - Stereoselective Total Synthesis of Mucocin, an Antitumor Agent (C) 4751
  - Sulfur-Functionalized Olefins for Titanacycle Formation: Tandem Asymmetric Cyclization and the Pummerer Reaction Based on Sulfoxides Promoted by Titanium(II)-to-Titanium(IV) Relay (C) 3671
  - Synthesis of Cycloalkanones from Dienes and Allylamines through C–H and C–C Bond Activation Catalyzed by a Rhodium(I) Complex (C) 3031
  - Synthesis of Enantioenriched 5-Alkylidene-2-cyclopentenones from Chiral Allenyl Carbamates: Generation of a Chiral Lithium Allenolate and Allylic Activation for a Conrotatory 4 $\pi$ -Electrocyclization (C) 1532
  - Synthesis of Functionalized Pyrans by Domino Metathesis Reaction of Oxabicyclo Derivatives: Dramatic Effect of Remote Substituents on Reactivity and Selectivity (C) 4560
  - Synthesis of the Functionalized Tricyclic Skeleton of Guanacastepene A: A Tandem Epoxide-Opening  $\beta$ -Elimination/Knoevenagel Cyclization (C) 2185

- Total Synthesis of Diazonamide A (C) 3495
- Total Synthesis of (+)-Pamamycin-607 (C) 1392
- Transannular Radical Cascade as an Approach to the Diastereoselective Synthesis of Linear Triquinane (C) 3284
- Triazenes: A Versatile Tool in Organic Synthesis (R) 3338
- Cycloaddition
  - A Biomimetically Inspired Synthesis of the Dehydropiperidine Domain of Thio-strepton (C) 1941
  - A Cascade Cycloaddition Strategy Leading to the Total Synthesis of (–)-FR182877 (C) 1787
  - A Click Chemistry Approach to Tetrazoles by Huisgen 1,3-Dipolar Cycloaddition: Synthesis of 5-Acyltetrazoles from Azides and Acyl Cyanides (C) 2113
  - A Click Chemistry Approach to Tetrazoles by Huisgen 1,3-Dipolar Cycloaddition: Synthesis of 5-Sulfonyl Tetrazoles from Azides and Sulfonyl Cyanides (C) 2110
  - A Concise Formal Total Synthesis of (±)-Strychnine by Using a Transannular Inverse-Electron-Demand Diels–Alder Reaction of a [3](1,3)Indolo[3](3,6)pyridazinophane (C) 3261
  - A Five-Component Synthesis of Hexa-substituted Benzene (C) 4291
  - An Inverted Metal–Organic Framework with Compartmentalized Cavities Constructed by Using an Organic Bridging Unit Derived from the Solid State (C) 2070
  - A Pyridylsilyl Group Expands the Scope of Catalytic Intermolecular Pauson–Khand Reactions (C) 3481
  - [(arene)Rh(cod)]<sup>+</sup> Complexes as Catalysts for [5 + 2] Cycloaddition Reactions (C) 4550
  - A Stepwise Huisgen Cycloaddition Process: Copper(I)-Catalyzed Regioselective “Ligation” of Azides and Terminal Alkynes (C) 2596
  - Beltlike Macrocycles with Four and Eight (Cyclopentadienyl)(cyclobutadienyl)cobalt Building Blocks, Formed by Stepwise Oligomerization of 1,6-Cyclo-decadiyne Units (C) 1181
  - Calixarene-Type Macrocycles by Oxidation of Phenols Related to Vitamin E (C) 1171
  - Catalytic Asymmetric 1,3-Dipolar Cycloaddition Reactions of Azomethine Ylides—A Simple Approach to Optically Active Highly Functionalized Proline Derivatives (C) 4236
  - Catalytic Enantioselective Diels–Alder Reactions: Methods, Mechanistic Fundamentals, Pathways, and Applications (R) 1650
  - Catalytic, Enantioselective Syntheses of  $\beta$ -Lactones—Versatile Synthetic Building Blocks in Organic Chemistry (H) 744
  - Click Chemistry In Situ: Acetylcholinesterase as a Reaction Vessel for the Selective Assembly of a Femtomolar Inhibitor from an Array of Building Blocks (C) 1053
  - Concise and Efficient Total Synthesis of *Lycopodium* Alkaloid Magellanine (C) 4090
  - Cyclization of (–)-Pregaliellalactone in the Fungus *Galiella rufa* (C) 2158
  - Efficient Synthesis of a Tricyclic BCD Analogue of Ouabain: Lewis Acid Catalyzed Diels–Alder Reactions of Sterically Hindered Systems (C) 4125
  - Enantioselective Total Synthesis of Angucyclinone-Type Antibiotics Rubiginones A<sub>2</sub> and C<sub>2</sub> (C) 2755
  - Enantiospecific Synthesis of the Bridged Pyrrolizidine Core of Asparagine A: Dipolar Cycloadditions of Azomethine Ylides Derived from the Sulfonylation of Vinyllogous Amides. (C) 1778
  - Evaluation of Diene Hierarchies for Diels–Alder Reactions En Route to Xestocyclamine A: Elaboration of an Ansa Bridge by *B*-Alkyl Suzuki Macrocyclization (C) 1581 Corrigendum: 3085
  - Facile Construction of the Colchicine Skeleton By a Rhodium-Catalyzed Cyclization/Cycloaddition Cascade (C) 1524
  - Highly Enantioselective Inverse-Electron-Demand Hetero-Diels–Alder Reactions of  $\alpha,\beta$ -Unsaturated Aldehydes (C) 3059
  - Insertion and Cycloaddition Reactivity of a Transition-Metal *N*-Metalloimine (C) 3858
  - Intramolecular [3 + 2] Cycloaddition of a *N*-Phenyl Phosphane Ylide Complex to the *P*-Phenyl Group of a Wittig Ylide (C) 1186
  - Mechanism and Origin of Stereoselectivity in Lewis Acid Catalyzed [2 + 2] Cycloadditions of Ketenes with Aldehydes (C) 1572
  - Modular Ligands for Asymmetric Synthesis: Enantioselective Catalytic Cu<sup>II</sup>-Mediated Condensation Reaction of Ethyl Pyruvate with Danishefsky's Diene (C) 625
  - *N,N*-Dialkylhydrazones as the Imine Component in the Staudinger-Like [2 + 2] Cycloaddition to Benzyloxyketene (C) 831
  - Regiospecific Inverse-Electron-Demand Diels–Alder Reaction of Simultaneously Electrogenated Diene and Dienophile: An Expeditious Route to Polyfunctionalized 1,4-Benzoxazine Derivatives (C) 824
  - Reversible Binding of C<sub>60</sub> to an Anthracene Bearing a Dendritic Poly(amidoamine) Substituent to give a Water-Soluble Fullerodendrimer (C) 817
  - Synthesis of  $\alpha$ -Methylene- $\gamma$ -butyrolactones: Ru-Catalyzed Cyclocarbonylation of Allenyl Aldehydes and Allenyl Ketones (C) 1584
  - Synthesis of *cis,cis,cis*-[5.5.5.5]-1-Aza-fenestranes (C) 4122
  - Synthesis of Furoquinolines by a Multi-component Domino Process (C) 3633
  - Synthesis, X-ray Structure, and Properties of a Tetrabenzannelated 1,2,4,5-Cyclophane (C) 3688
  - 1,2,3,5-Tetrahydro-1,2,3-methenopent-1-ene, a Valence Isomer of Isoindene: Synthesis and Diels–Alder Reactions (C) 2969
  - The Diels–Alder Reaction in Total Synthesis (R) 1668
  - The HfCl<sub>4</sub>-Mediated Diels–Alder Reaction of Furan (C) 4079
  - Tin Analogues of “Arduengo Carbenes”: Synthesis of 1,3,2 $\lambda^2$ -Diazastannoles and Transfer of Sn Atoms between a 1,3,2 $\lambda^2$ -Diazastannole and a Diazadiene (C) 1888
  - Unusual P=C Bond Cleavage by Double Dichlorosilylene Transfer from Trichlorosilyltrimethylgermane to *P*-Phosphanyl Phosphaalkenes (C) 3829
- Cyclobutadiene ligands
  - Synthesis and Structural Characterization of Organometallic Cyclynes: Novel Nanoscale, Carbon-Rich Topologies (C) 2378
- Cyclodextrins
  - A Cyclodextrin Diphosphane as a First and Second Coordination Sphere Cavitand: Evidence for Weak C–H $\cdots$ Cl–M Hydrogen Bonds within Metal-Capped Cavities (C) 2593
  - A Method To Identify and Screen Libraries of Guests That Complex to a Synthetic Host (C) 1004
  - A Novel Concept of Reversing Neuromuscular Block: Chemical Encapsulation of Rocuronium Bromide by a Cyclodextrin-Based Synthetic Host (C) 265
  - Attachment of Molecules at a Molecular Printboard by Multiple Host–Guest Interactions (C) 4467
  - Per(6-amino-2-*O*-carboxymethyl-6-deoxy-3-*O*-methyl)- $\alpha$ -cyclodextrin: Helical Self-Assembly of a Polyionic Amino Acid into Nanotubes (C) 1715
  - Unidirectional Photoinduced Shuttling in a Rotaxane with a Symmetric Stilbene Dumbbell (C) 1769
- Cycloglycopeptides
  - Induction of Cell Differentiation in Transformed Keratinocytes by Synthetic (Glyco)peptides from the Homophilic Recognition Domain of E-Cadherin (C) 4249
- Cycloisomerization
  - Novel Ene-Like Cycloisomerization Reaction of Nitrile Oxides with a Tethered Allyltrimethylsilyl Group (C) 1586
- Cyclopentadienyl cation
  - Comment on the X-Ray Structure of Pentamethylcyclopentadienyl Cation (L) 2276
  - Statement (L) 2278
  - The Stable Pentamethylcyclopentadienyl Cation Remains Unknown (L) 2275
- Cyclopentadienyl ligands
  - A New Era in Divalent Organolanthanide Chemistry? (H) 743
  - A Triple-Decker Sandwich Complex of Barium (C) 2315
  - 1,2-Azaborolyls, Isoelectronic Analogues of the Ubiquitous Cyclopentadienyl Ligand: Synthesis of *B*-Heteroatom-Substituted 1,2-Azaborolyl Complexes and an Assessment of Their Electronic Features (C) 174
  - Expanding Divalent Organolanthanide Chemistry: The First Organothulium(II) Complex and the In Situ Organodysprosium(II) Reduction of Dinitrogen (C) 359
  - [Pd<sub>3</sub>(InCp\*)<sub>4</sub>( $\mu_2$ -InCp\*)<sub>4</sub>]: Three Linearly Arranged Palladium Atoms Wrapped into a Fluxional Shell of Eight InCp\* Ligands (C) 4761
  - Rational Synthesis of Tetranuclear Ruthenium Polyhydride Clusters and Their Mixed-Ligand Analogues (C) 4085
  - Tetra- and Pentacyclopentadienylcyclopentadiene—Two New Donor-Substituted Ligands for Metal Complexes (C) 786
  - The Decaphosphatitanocene Dianion—A New Chapter in the Chemistry of Naked Polyphosphorus Ligands (H) 2723
- Cyclopentenones
  - Synthesis of Enantioenriched 5-Alkylidene-2-cyclopentenones from Chiral Allenyl Carbamates: Generation of a Chiral Lithium Allenolate and Allylic Activation for a Conrotatory 4 $\pi$ -Electrocyclization (C) 1532
- Cyclopentenyl cation
  - Comment on the X-Ray Structure of Pentamethylcyclopentadienyl Cation (L) 2276

- Statement (L) 2278
- The Stable Pentamethylcyclopentadienyl Cation Remains Unknown (L) 2275
- Cyclopeptides
  - Selective  $\alpha$ -Carbon Hydroxylation of Glycine in Nickel(II)–Cyclotetrapeptide Complexes by Oxygen (C) 1879
- Cyclophanes
  - A Concise Formal Total Synthesis of ( $\pm$ )-Strychnine by Using a Transannular Inverse-Electron-Demand Diels–Alder Reaction of a [3](1,3)Indolo[3](3,6)pyridazinophane (C) 3261
  - Asymmetric, Catalytic Phenyl Transfer to Imines: Highly Enantioselective Synthesis of Diarylmethylamines (C) 3692
  - Beltlike Macrocycles with Four and Eight (Cyclopentadienyl)(cyclobutadienyl)cobalt Building Blocks, Formed by Stepwise Oligomerization of 1,6-Cyclodecadiyne Units (C) 1181
  - Enantiopure Double-Helical Alkynyl Cyclophanes (C) 171
  - Enantioselective Photochromic Reaction of a [2,2]Metacyclopentadiene (C) 2156
  - “Polyunsaturated” Cyclophanes (H) 4003
  - Synthesis, X-ray Structure, and Properties of a Tetrabenzannelated 1,2,4,5-Cyclophane (C) 3688
  - Template-Directed Synthesis of Helical Phenanthroline Cyclophanes (C) 4520
  - Thermotropic Liquid Crystals from Planar Chiral Compounds: Optically Active Mesogenic [2,2]Paracyclophane Derivatives (C) 3411
- Cyclopropanation
  - An Efficient and Highly Enantio- and Diastereoselective Cyclopropanation of Olefins Catalyzed by Schiff-Base Ruthenium(II) Complexes (C) 2953
  - Complete Stereospecific Cyclopropanation of  $\alpha,\beta$ -Unsaturated Amides Promoted by Sm/CH<sub>2</sub>I<sub>2</sub> (C) 1917
  - Diastereoselective Synthesis of *trans*-1,2-Dialkylcyclopropanols by the Kulinkovich Hydroxycyclopropanation of Homoallylic Alcohols (C) 2160
- Cyclopropanes
  - BuMgNiPr<sub>2</sub>: A New Base for Stoichiometric, Position-Selective Deprotonation of Cyclopropane Carboxamides and Other Weak CH Acids (C) 2169
- Cyclotrimerization
  - A Highly Efficient and Flexible Synthesis of Substituted Carbazoles by Rhodium-Catalyzed Inter- and Intramolecular Alkyne Cyclotrimerizations (C) 3281
  - Total Syntheses and Structures of Angular [6]- and [7]Phenylene: The First Helical Phenylenes (Heliphenes) (C) 3223
  - Total Syntheses of Angular [7]-, [8]-, and [9]Phenylene by Triple Cobalt-Catalyzed Cycloisomerization: Remarkably Flexible Heliphenes (C) 3227
- Cytochromes
  - Electron-Transfer Dynamics of Cytochrome C: A Change in the Reaction Mechanism with Distance (C) 4700
- Dehydration
  - Rhenium(VII) Oxo Complexes as Extremely Active Catalysts in the Dehydration of Primary Amides and Aldoximes to Nitriles (C) 2983
- Dehydrogenation
  - HIO<sub>3</sub> and I<sub>2</sub>O<sub>5</sub>: Mild and Selective Alternative Reagents to IBX for the Dehydrogenation of Aldehydes and Ketones (C) 1386
  - Modulation of the Reactivity Profile of IBX by Ligand Complexation: Ambient Temperature Dehydrogenation of Aldehydes and Ketones to  $\alpha,\beta$ -Unsaturated Carbonyl Compounds (C) 993
  - Oxidation of Silyl Enol Ethers by Using IBX and IBX·N-Oxide Complexes: A Mild and Selective Reaction for the Synthesis of Enones (C) 996
  - Ru<sup>II</sup> Complexes of “Large-Surface” Ligands (C) 4022
  - The Catalytic Use of Onion-Like Carbon Materials for Styrene Synthesis by Oxidative Dehydrogenation of Ethylbenzene (C) 1885
- Denaturation
  - Designing Protein Denaturants: Synthetic Agents Induce Cytochrome c Unfolding at Low Concentrations and Stoichiometries (C) 641
- Dendrimers
  - Controlled Release of a Dendritically Encapsulated Template Molecule (C) 3254
  - Fluorescence Enhancement through Enzymatic Cleavage of Internally Quenched Dendritic Peptides: A Sensitive Assay for the AspN Endoprotease (C) 3233
  - Light-Harvesting Dendrimers: Efficient Intra- and Intermolecular Energy-Transfer Processes in a Species Containing 65 Chromophoric Groups of Four Different Types (C) 3595
  - Nanostructured Molecular Materials for Device-Quality, Highly Efficient Electrooptic Poled Polymers (H) 3363
  - Novel Glycodendrimers Self-Assemble to Nanoparticles which Function as Polyvalent Ligands In Vitro and In Vivo (C) 3195
  - pH-Responsive Molecular Nanocarriers Based on Dendritic Core-Shell Architectures (C) 4252
  - Reversible Binding of C<sub>60</sub> to an Anthracene Bearing a Dendritic Poly(amidoamine) Substituent to give a Water-Soluble Fullerodendrimer (C) 817
  - Shape-Persistent, Fluorescent Polyphenylene Dyads and a Triad for Efficient Vectorial Transduction of Excitation Energy (C) 1900
  - Synthesis, Characterization, and Modification of Hyperbranched Poly(arylene oxindoles) with a Degree of Branching of 100% (C) 4547
- Dendritic polymers
  - Dendritic Polymers in Biomedical Applications: From Potential to Clinical Use in Diagnostics and Therapy (M) 1329
- Density functional calculations
  - A Planar, Aromatic *bicyclo*-Tetraborane(4) (C) 1529
  - Aromatic Boranes with Planar-Tetra-coordinate Boron Atoms and Very Short B–B Distances (C) 1526
  - As[P(NMe<sub>2</sub>)<sub>3</sub>]<sub>2</sub><sup>+</sup> as Simultaneous As<sup>I</sup> and P<sup>I</sup> Source: Synthesis and Density Functional Calculations of Planar Tetracoordinate Arsonium and Phosphonium Ions (C) 450
- Chemically Tuning between Ferromagnetism and Antiferromagnetism by Combining Theory and Synthesis in Iron/Manganese Rhodium Borides (C) 2528
- Comment on the X-Ray Structure of Pentamethylcyclopentadienyl Cation (L) 2276
- Design Optimization of 1,3-Diphospho-2,4-diboretane Diradicals (C) 3894
- 9,9-Dilithiofluorene: The First Crystal-Structure Analysis of an  $\alpha,\alpha$ -Dilithiated Hydrocarbon (C) 4503
- Electrocyclization of (Z)-1,2,4,6-Heptatetraene and its Heterosubstituted Analogues: Pericyclic or Pseudopericyclic? (L) 1147
- Electronic Structure and Bonding in Hexacoordinate Silyl–Palladium Complexes (C) 1953
- Experimental Observation and Confirmation of Icosahedral W@Au<sub>12</sub> and Mo@Au<sub>12</sub> Molecules (C) 4786
- Hexakis(silyl)palladium(vi) or Palladium(II) with  $\eta^2$ -Disilane Ligands? (C) 1956
- Hydrogen Bonding Modulates the Selectivity of Enzymatic Oxidation by P450: Chameleon Oxidant Behavior by Compound I (C) 1947
- Identification of Jahn–Teller Effects in both Singlet and Triplet Low-Energy States of [( $\eta^6$ -benzene)Nb(CO)<sub>3</sub>]<sup>+</sup> (C) 2120
- Lewis Acidity in Transition-Metal-Doped Microporous Aluminophosphates (C) 4677
- Ligand Rotation Distinguishes First- and Second-Generation Ruthenium Metathesis Catalysts (C) 4484
- Molecular Composition of Liquid Sulfur (C) 3199
- Monomeric Compounds Containing the *cis*-[V(=O)(OH)]<sup>+</sup> Core (C) 2797
- Orbital Interactions in Strong and Weak Hydrogen Bonds are Essential for DNA Replication (C) 2092
- Planar Hypercoordinate Carbons Joined: Wheel-Shaped Molecules with C–C Axles (C) 4082
- Reactivity of Chalcogenostannate Salts: Unusual Synthesis and Structure of a Compound Containing Ternary Cluster Anions [Co<sub>4</sub>( $\mu_4$ -Se)(SnSe<sub>4</sub>)<sub>4</sub>]<sup>10-</sup> (C) 4269
- Remarkably Large Geometry Dependence of <sup>57</sup>Fe NMR Chemical Shifts (C) 2312
- Reply (L) 1150
- Structure of Bis(pentafluorophenyl)xenon, Xe(C<sub>6</sub>F<sub>5</sub>)<sub>2</sub> (C) 448
- Synthesis, X-ray Structure, and Properties of a Tetrabenzannelated 1,2,4,5-Cyclophane (C) 3688
- 2,3,5,6-Tetrafluorophenylnitren-4-yl: A Quartet-Ground-State Nitrene Radical (C) 2742
- The Ability of the  $\alpha,\alpha'$ -Diiminopyridine Ligand System to Accept Negative Charge: Isolation of Paramagnetic and Diamagnetic Trianions (C) 3873
- The Absolute Configuration of Bromochlorofluoromethane (C) 4544
- The Mechanism of Catalytic Enantioselective Fluorination: Computational and Experimental Studies (C) 979
- Triboracyclopropanes: Two-Electron Double Aromatic Compounds with Very Short B–B Distances (C) 3380
- Deprotonation
  - Benzylic endo-Alkylation of Phthalan–Cr(CO)<sub>3</sub> Complexes via Temporary



## Dearomatization

- $\alpha$ -Lithiation of 1-Aryl-3,3-dialkyltriazenes and Intramolecular Conversion to Benzylamine and Tetrahydrobenzotriazine Derivatives (C) 484

- Silylation: An Entry to *trans*-1,3-Disubstituted Dihydroisobenzofurans (C) 2525
- Deracemization
- Deracemization of  $\alpha$ -Methylbenzylamine Using an Enzyme Obtained by In Vitro Evolution (C) 3177
- Desaturases
- Characterization of a  $\Delta^8$ -Sphingolipid Desaturase from Higher Plants: A Stereochemical and Mechanistic Study on the Origin of *E,Z* Isomers (C) 2298
- Desorption
- Preparation and Characterization of a Model Bimetallic Catalyst: Co–Pd Nanoparticles Supported on  $\text{Al}_2\text{O}_3$  (C) 4073
- Desymmetrization
- Highly Enantioselective Desymmetrization of Anhydrides by Carbon Nucleophiles: Reactions of Grignard Reagents in the Presence of (–)-Sparteine (C) 1057
- Deuterium
- Rhodium Tetracarbonyl Hydride: The Elusive Metal Carbonyl Hydride (C) 3785
  - The Shortest Route to Chiral Ditosylmethylamine (C) 497
- DFT calculations
- Ambiphilicity: A Characteristic Reactivity Principle of  $\pi$ -Bound Phosphorus Heterocycles (C) 4047
- Diacetals
- Butane-2,3-diacetals of Glyceraldehyde: A Stable Alternative to Glyceraldehyde Acetonide (C) 3898
- Dianions
- Simple Synthesis of Oligosilyl- $\alpha,\omega$ -dipotassium Compounds (C) 989
- Diastereoselectivity
- A Stereoselective Route to Guanacastepene A through a Surprising Epoxidation (C) 2188
  - Butane-2,3-diacetals of Glyceraldehyde: A Stable Alternative to Glyceraldehyde Acetonide (C) 3898
  - Diastereoselective Asymmetric Nitro-Aldol Reaction of  $\alpha$ -Amino Aldehydes under High Pressure without Catalyst (C) 1031
  - Diastereoselective Synthesis of *trans*-1,2-Dialkylcyclopropanols by the Kulinkovich Hydroxycyclopropanation of Homoallylic Alcohols (C) 2160
  - Dynamic Kinetic Resolution and Desymmetrization of Enantiotopic Groups by Cyclodehydration of Racemic or Prochiral  $\delta$ -Oxoesters with (*R*)-Phenylglycinol: Enantioselective Synthesis of Piperidines (C) 335
  - Efficient Synthesis of a Tricyclic BCD Analogue of Ouabain: Lewis Acid Catalyzed Diels–Alder Reactions of Sterically Hindered Systems (C) 4125
  - First Synthesis of Optically Pure Propargylic *N*-Hydroxylamines by Direct, Highly Diastereoselective Addition of Terminal Alkynes to Nitrones (C) 3054
  - Highly Efficient Stereocontrolled Total Synthesis of the Polyfunctional Carotenoid Peridinin (C) 1023
  - $\text{Pd}^0$ -Catalyzed Three-Component Tandem Double-Addition–Cyclization Reaction: Stereoselective Synthesis of *cis*-Pyrrolidine Derivatives (C) 4737
  - Stereoselective Prins Cyclizations of  $\delta,\epsilon$ -Unsaturated Ketones to *cis*-3-Chlorocyclohexanols with  $\text{TiCl}_4$  (C) 491
  - Stereoselective Synthesis of Boc-Protected *cis* and *trans*-4-Trifluoromethylprolines by Asymmetric Hydrogenation Reactions (C) 1600
  - Stereoselective Synthesis of Tri- and Tetrasubstituted Olefins by Tandem Cyclization Addition Reactions Featuring Vinyl Radicals (C) 3206
  - Synthesis and Stereoselective Self-Assembly of Double- and Triple-Stranded Helicates (C) 2086
  - The Effect of a Hydroxy Protecting Group on the  $\text{PtCl}_2$ -Catalyzed Cyclization of Dienynes—A Novel, Efficient, and Selective Synthesis of Carbocycles (C) 2132
- Diatoms
- Biominingalization in Diatoms Mediated through Peptide- and Polyamine-Assisted Condensation of Silica (H) 3167
  - Mesophases of (Bio)Polymer–Silica Particles Inspire a Model for Silica Biominingalization in Diatoms (C) 1543
- Diazenides
- $\text{Sr}_4\text{N}_3$ : A Hitherto Missing Member in the Nitrogen Pressure Reaction Series  $\text{Sr}_2\text{N} \rightarrow \text{Sr}_4\text{N}_3 \rightarrow \text{SrN} \rightarrow \text{SrN}_2$  (C) 2288
- Diazo compounds
- Lewis Acid Controlled Regioselective 1,2 and 1,4 Reaction of  $\alpha,\beta$ -Unsaturated Carbonyl Compounds with  $\text{Ti}^{\text{IV}}$  Enolates Derived from  $\alpha$ -Diazo  $\beta$ -Keto Carbonyl Compounds (C) 2773
- Dibenzofuranes
- A Route to 5-Substituted Dibenzofurans by Anionic Cycloaromatization of 2-(6-substituted 3-hexen-1,5-diynyl)phenyl *tert*-butyldimethyl ethers and Related Molecules (C) 4077
- Diels–Alder reaction
- A Combined Intramolecular Diels–Alder/Intramolecular Schmidt Reaction: Formal Synthesis of (±)-Stenine (C) 4316
  - Calixarene-Type Macrocycles by Oxidation of Phenols Related to Vitamin E (C) 1171
  - Efficient Synthesis of a Tricyclic BCD Analogue of Ouabain: Lewis Acid Catalyzed Diels–Alder Reactions of Sterically Hindered Systems (C) 4125
  - The Diels–Alder Reaction in Total Synthesis (R) 1668
  - Total Synthesis of (+)-Epoxyquinols A and B (C) 3192
- Diene ligands
- Bis(1,2,3,4- $\eta^4$ -anthracene)cobaltate(1–) (C) 1211
  - Formation of a Butadienenickel-Based Zwitterionic Single-Component Catalyst for Ethylene Polymerization: An Alternative Activation Pathway for Homogeneous Ziegler–Natta Catalysts of Late Transition Metals (C) 2543
- Dienes
- A New Method for the Synthesis of Cycloheptenones by  $\text{Rh}^{\text{I}}$ -Catalyzed Intramolecular Hydroacylation of 4,6-Dienals (C) 1218
  - Efficient and General Synthetic Approach to Pentasubstituted Conjugated Dienes Using Site-Selective Coupling of Cuprates with 1,4-Diiodo-1,3-alkadienes as the Key Reaction (C) 3023
  - Remarkably High 1,5-Diastereoselectivity in a Nickel-Catalyzed Conjugate Addition of  $\text{Me}_2\text{Zn}$  and Carbonyl Compounds to 1, $\omega$ -Dienynes with Through-Space Coupling (C) 2784
  - Synthesis of Cycloalkanones from Dienes and Allylamines through C–H and C–C Bond Activation Catalyzed by a Rhodium(II) Complex (C) 3031
- Diffusion
- Characterization of Reactive Intermediates by Diffusion-Ordered NMR Spectroscopy: A Snapshot of the Reaction of  $^{13}\text{CO}_2$  with  $[\text{Cp}_2\text{Zr}(\text{Cl})\text{H}]$  (C) 107
- Digermynes
- Synthesis and Characterization of a Digermanium Analogue of an Alkyne (C) 1785
- Dihydropyran
- Highly Enantioselective Inverse-Electron-Demand Hetero-Diels–Alder Reactions of  $\alpha,\beta$ -Unsaturated Aldehydes (C) 3059
- Dihydroxylation
- An Asymmetric Phase-Transfer Dihydroxylation Reaction (C) 3479
  - A New Approach to Osmium-Catalyzed Asymmetric Dihydroxylation and Aminohydroxylation of Olefins (C) 472
- Dimerization
- A Four-Step Alternating Reductive Dimerization/Bond Cleavage of Indenocorannulene (C) 1712
  - A Highly Reactive Uranium Complex Supported by the Calix[4]tetrapyrrole Tetraanion Affording Dinitrogen Cleavage, Solvent Deoxygenation, and Polysilanol Depolymerization (C) 3433
  - An Axially Bridged Indium Phthalocyanine Dimer with an In–In Bond (C) 3239
  - A New Trend in Phenalenyl Chemistry: A Persistent Neutral Radical, 2,5,8-Tri-*tert*-butyl-1,3-diazaphenalenyl, and the Excited Triplet State of the Gable *syn*-Dimer in the Crystal of Column Motif (C) 1793
  - Asymmetric Hydrovinylation: New Perspectives through Use of Modular Ligand Systems (H) 3775
  - Cavity-Directed, Highly Stereoselective [2+2] Photodimerization of Olefins within Self-Assembled Coordination Cages (C) 1347
  - $\text{C}_6\text{K}$ -Promoted Self-Condensation and Self-Condensation-Cycloisomerization Reactions of  $\alpha,\beta$ -Unsaturated Fischer Carbene Complexes (C) 3442
  - Oxidative Cyclization–Dimerization Reaction of 2,3-Allenic Acids and 1,2-Allenyl Ketones: An Efficient Synthesis of 4-(3'-Furanyl)butenolide Derivatives (C) 1775
  - Total Synthesis of (+)-Epoxyquinols A and B (C) 3192
- Dinitrogen
- Hydroboration of Coordinated Dinitrogen: A New Reaction for the  $\text{N}_2$  Ligand that Results in Its Functionalization and Cleavage (C) 3709
- Diols
- An Asymmetric Phase-Transfer Dihydroxylation Reaction (C) 3479
  - Enantioselective Alkylative Double Ring Opening of Epoxides: Synthesis of Enantioenriched Unsaturated Diols and Amino Alcohols (C) 4313 Corrigendum: 4611
- Diphosphates
- (*E*)-4-Hydroxy-3-methylbut-2-enyl Diphosphate: An Intermediate in the Formation of Terpenoids in Plant Chromoplasts (C) 2604
- 1,3-Dipoles
- Intramolecular [3+2] Cycloaddition of a Nitrilium Phosphane Ylide Complex to the *P*-Phenyl Group of a Wittig Ylide (C) 1186
- Directed evolution
- Screening and Selection Methods for Large-Scale Analysis of Protein Function (R) 4402



## Direct synthesis

- Selective Direct Synthesis of Organo-functionalized Dialkylgermanes from Solvolytically Activated Germanium (C) 1178

## Dispersion interactions

- Rate Acceleration through Dispersion Interactions: Effect of a Hemiacetate on the Transition State of Inner Phase Decompositions of Diazirines (C) 96

## Disproportionation

- Ethane and Ethylidene Dicarboxylates from the Ruthenium(II)-Catalyzed “Disproportionative Addition” of Carboxylic Acids to Ethene (C) 3905

## Diversification

- Directing Otherwise Incompatible Reactions in a Single Solution by Using DNA-Templated Organic Synthesis (C) 4104

## Diversity

- The Chemistry of the Antibody Molecule (M) 4427

## Diversity-oriented synthesis

- A Boronic Ester Annulation Strategy for Diversity-Oriented Organic Synthesis (C) 152

## DNA

- Amplified DNA Detection by Electro-generated Biochemiluminescence and by the Catalyzed Precipitation of an Insoluble Product on Electrodes in the Presence of the Doxorubicin Intercalator (C) 3398
- An Electrochemical Probe of DNA Stacking in an Antisense Oligonucleotide Containing a C3'-endo-Locked Sugar (C) 3402
- A (6-4) Photolyase Model: Repair of DNA (6-4) Lesions Requires a Reduced and Deprotonated Flavin (C) 767
- Au-Nanoparticle Nanowires Based on DNA and Polylysine Templates (C) 2323
- DNA On Silicon Devices: On-Chip Synthesis, Hybridization, and Charge Transfer (C) 615
- DNA-Templated Synthesis: More Versatile than Expected (H) 89
- Expanding the Reaction Scope of DNA-Templated Synthesis (C) 1796
- Fapy·dA Induces Nucleotide Misincorporation Translesionally by a DNA Polymerase (C) 771
- Nanomechanical Devices Based on DNA (H) 3779
- Tuning PCR Specificity by Chemically Modified Primer Probes (C) 4766

## DNA adducts

- Capillary Electrophoresis Analysis of DNA Adducts as Biomarkers for Carcinogenesis (C) 445

## DNA complexes

- A Combined Effect of Molecular Electrostatic Potential and N7 Accessibility Explains Sequence-Dependent Binding of *cis*-[Pt(NH<sub>3</sub>)<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>]<sup>2+</sup> to DNA Duplexes (C) 2998

## DNA conjugates

- Dynamics and Energetics of Hole Trapping in DNA by 7-Deazaguanine (C) 1026

## DNA damage

- Capillary Electrophoresis Analysis of DNA Adducts as Biomarkers for Carcinogenesis (C) 445
- Fapy·dA Induces Nucleotide Misincorporation Translesionally by a DNA Polymerase (C) 771

## DNA methylation

- Capillary Electrophoresis Analysis of DNA Adducts as Biomarkers for Carcinogenesis (C) 445

## DNA microarrays

- How to Make a DNA Chip (R) 1276
- New Methods for the High-Throughput Screening of Enantioselective Catalysts and Biocatalysts (H) 1335

## DNA-modified surfaces

- An Electrochemical Probe of DNA Stacking in an Antisense Oligonucleotide Containing a C3'-endo-Locked Sugar (C) 3402

## DNA polymerases

- A Molecular Beacon for Quantitative Monitoring of the DNA Polymerase Activity in Real-Time (C) 3620
- Fapy·dA Induces Nucleotide Misincorporation Translesionally by a DNA Polymerase (C) 771

## DNA recognition

- Amplified DNA Detection by Electro-generated Biochemiluminescence and by the Catalyzed Precipitation of an Insoluble Product on Electrodes in the Presence of the Doxorubicin Intercalator (C) 3398
- Colorimetric and Fluorometric Detection of Nucleic Acids Using Cationic Polythiophene Derivatives (C) 1548

- Fluorescent Deazaflavin–Oligonucleotide Probes for Selective Detection of DNA (C) 486
- Oligomerization of p53 upon Cooperative DNA Binding: Towards a Structural Understanding of p53 Function (H) 1702
- Polymerase Recognition of Unnatural Base Pairs (C) 3841 Corrigendum: 4612

- Structure of a Drug-Induced DNA T-Bulge: Implications for DNA Frameshift Mutations (C) 4754
- Towards a DNA-Like Duplex without Hydrogen-Bonded Base Pairs (C) 3203

## DNA repair

- A (6-4) Photolyase Model: Repair of DNA (6-4) Lesions Requires a Reduced and Deprotonated Flavin (C) 767
- Weak Distance Dependence of Excess Electron Transfer in DNA (C) 1763

## DNA replication

- Orbital Interactions in Strong and Weak Hydrogen Bonds are Essential for DNA Replication (C) 2092
- Polymerization on Solid Supports (C) 4567

## DNA structures

- Direct Observation of a Cytosine Analogue that Forms Five Hydrogen Bonds to Guanosine: Guanidino G-Clamp (C) 115
- DNA-Mediated Electron Transfer across Synthetic T:A·T Triplex Structures (C) 3485
- Modular, Well-Behaved Reversible Polymers from DNA-Based Monomers (C) 4026
- Structure of a Drug-Induced DNA T-Bulge: Implications for DNA Frameshift Mutations (C) 4754
- Towards a DNA-Like Duplex without Hydrogen-Bonded Base Pairs (C) 3203

## Domino reactions

- A Boronic Ester Annulation Strategy for Diversity-Oriented Organic Synthesis (C) 152
- A Combined Intramolecular Diels–Alder/Intramolecular Schmidt Reaction: Formal Synthesis of (±)-Stenine (C) 4316
- A Five-Component Synthesis of Hexasubstituted Benzene (C) 4291
- A Radical Alternative to the Anionic Oxy-Cope Rearrangement (C) 4321

- Convergent Synthesis of Silylated Allylic Alcohols by a Stereoselective Domino, Sequential Radical-Coupling Reaction (C) 1407

- Model Studies Towards Azadirachtin: Part 1. Construction of the Crowded C8–C14 Bond by Radical Chemistry (C) 2103

- Model Studies Towards Azadirachtin: Part 2. Construction of the Crowded C8–C14 Bond by Transition Metal Chemistry (C) 2107

- Sequential Base-Promoted Annulation/Palladium-Catalyzed Domino 1,5-Enyne Arylation and Vinylation of  $\alpha$ -Propargylaminohydrazones (C) 1400

- Stereoselective Synthesis of Tri- and Tetrasubstituted Olefins by Tandem Cyclization Addition Reactions Featuring Vinyl Radicals (C) 3206

- The Diels–Alder Reaction in Total Synthesis (R) 1668

## Donor–acceptor systems

- An Unprecedented Mixed-Charged State in a Supramolecular Assembly of Ligand-Based Mixed-Valence Redox Isomers (ET<sup>+</sup>)<sub>3</sub>[Cr<sup>III</sup>(Cl<sub>4</sub>SO)<sub>2</sub>(Cl<sub>4</sub>Cat)]<sup>–</sup> [Cr<sup>III</sup>(Cl<sub>4</sub>SO)(Cl<sub>4</sub>Cat)<sub>2</sub>]<sup>2–</sup> (C) 130
- Color-Tunable Transparent Mesoporous Silica Films: Immobilization of One-Dimensional Columnar Charge-Transfer Assemblies in Aligned Silicate Nanochannels (C) 3414

- Comparison of Reorganization Energies for Intra- and Intermolecular Electron Transfer (C) 2344
- Oligo(phenylenevinylene)s with Terminal Donor–Acceptor Substitution (C) 292

- The Hydrogen Bond in the Solid State (R) 48

- Trapping Energy from and Injecting Energy into Dye–Zeolite Nanoantennae (C) 2284

## Drug delivery

- pH-Responsive Molecular Nanocarriers Based on Dendritic Core-Shell Architectures (C) 4252

## Drug design

- A Mass Spectrometry Based Direct-Binding Assay for Screening Binding Partners of Proteins (C) 646
- A Novel Concept of Reversing Neuromuscular Block: Chemical Encapsulation of Rocuronium Bromide by a Cyclodextrin-Based Synthetic Host (C) 265

- Approaches to the Description and Prediction of the Binding Affinity of Small-Molecule Ligands to Macromolecular Receptors (R) 2644

- A Straightforward NMR-Spectroscopy-Based Method for Rapid Library Screening (C) 3454

- Combinatorial and Rational Strategies To Develop Nonpeptidic  $\alpha\beta 7$ -Integrin Antagonists from Cyclic Peptides (C) 3007

- Design of a Protein Surface Antagonist Based on  $\alpha$ -Helix Mimicry: Inhibition of gp41 Assembly and Viral Fusion (C) 278

- Efficient and Simple Solid-Phase Synthesis of Short Cyclic Oligodeoxynucleotides Bearing a Phosphorothioate Linkage (C) 3704

- Formation of a Class of Enzyme Inhibitors (Drugs), Including a Chiral Compound, by Using Imprinted Polymers or Biomolecules as Molecular-Scale Reaction Vessels (C) 4459

- Generation of Libraries of Pharmacophoric Structures with Increased Com-

- plexity and Diversity by Employing Polymorphic Scaffolds (C) 3677
- NMR Reporter Screening for the Detection of High-Affinity Ligands (C) 3420
  - Ones, Thiones, and *N*-Oxides: An Exercise in Imidazole Chemistry (C) 2290
  - Remodeling of gp41-C34 Peptide Leads to Highly Effective Inhibitors of the Fusion of HIV-1 with Target Cells (C) 2937
- Dyes/pigments**
- Chemistry in Ancient Times: The Development of Blue and Purple Pigments (E) 2483
  - Shape-Persistent, Fluorescent Polyphenylene Dyads and a Triad for Efficient Vectorial Transduction of Excitation Energy (C) 1900
  - Trapping Energy from and Injecting Energy into Dye-Zeolite Nanoantennae (C) 2284
- Dynamic libraries**
- Enzymatic Generation and In Situ Screening of a Dynamic Combinatorial Library of Sialic Acid Analogues (C) 3405
- Dynamic light scattering**
- Mechanism of the Transformation of Silica Precursor Solutions into Si-MFI Zeolite (C) 2558
- Dynamic resolution**
- Enantioselective Synthesis of Substituted Pyrrolidines by Dynamic Resolution (C) 3887
- Dysprosium**
- A New Era in Divalent Organolanthanide Chemistry? (H) 743
  - Expanding Divalent Organolanthanide Chemistry: The First Organothulium(II) Complex and the In Situ Organodysprosium(II) Reduction of Dinitrogen (C) 359



- E-cadherin**
- Induction of Cell Differentiation in Transformed Keratinocytes by Synthetic (Glyco)peptides from the Homophilic Recognition Domain of E-Cadherin (C) 4249
- Efrapeptins**
- The First Total Synthesis of Efrapeptin C (C) 4267
- Elastomers**
- Shape-Memory Polymers (R) 2034
- Electrochemistry**
- Assembly of a Face-to-Face Tetranuclear Copper(I) Complex as a Host for an Anthracene Guest (C) 975
  - Direct Assembly of Large Arrays of Oriented Conducting Polymer Nanowires (C) 3665
  - Direct Electrochemical Aziridination of Alkenes under Metal-Free Conditions (H) 3586
  - Distal Cu Ion Protects Synthetic Heme/Cu Analogues of Cytochrome Oxidase against Inhibition by CO and Cyanide (C) 4139
  - Dual Biosensing by Magneto-Controlled Bioelectrocatalysis (C) 1343
  - Electrocatalytic O<sub>2</sub> Reduction by Synthetic Analogues of the Heme/Cu Site of Cytochrome Oxidase Incorporated in a Lipid Film (C) 3487

- Electrochemical Modification of Single Carbon Nanotubes (C) 1353
  - Electrodeposition of Redox Polymers and Co-Electrodeposition of Enzymes by Coordinative Crosslinking (C) 810
  - Probing Fast Facilitated Ion Transfer across an Externally Polarized Liquid-Liquid Interface by Scanning Electrochemical Microscopy (C) 3445
  - Regiospecific Inverse-Electron-Demand Diels-Alder Reaction of Simultaneously Electrogenenerated Diene and Dienophile: An Expeditious Route to Polyfunctionalized 1,4-Benzoxazine Derivatives (C) 824
  - Synthesis, Spectroscopy, and Solid-State Structural Characterization of the Hexanuclear Copper Macrocycle [Cu<sub>6</sub>Cl<sub>6</sub>(μ-PCHP)<sub>6</sub>] (C) 2571
  - Synthesis, X-ray Structure, and Properties of a Tetrabenzannulated 1,2,4,5-Cyclophane (C) 3688
  - Tuning Electronic Behavior of Carbonyl Metal Clusters by Substitution of Interstitial and Capping Atoms (C) 3685
  - Water-Insoluble Lanthanum Oxochloride-Based Solid Electrolytes with Ultra-High Chloride Ion Conductivity (C) 3890
- Electrocrystallization**
- Crystal Structure of K<sub>2</sub>[C<sub>2</sub>O<sub>6</sub>]—First Proof of Existence and Constitution of a Peroxodicarbonate Ion (C) 1922
- Electrocyclic reactions**
- Electrocyclization of (Z)-1,2,4,6-Hepta-tetraene and its Heterosubstituted Analogues: Pericyclic or Pseudopericyclic? (L) 1147
  - Reply (L) 1150
- Electroluminescence**
- Amplified DNA Detection by Electro-generated Biochemiluminescence and by the Catalyzed Precipitation of an Insoluble Product on Electrodes in the Presence of the Doxorubicin Intercalator (C) 3398
  - Boron Chemistry Lights the Way: Optical Properties of Molecular and Polymeric Systems (M) 2927
  - Comment on the Communication "Highly Efficient White Organic Electroluminescence from a Double-Layer Device Based on a Boron Hydroxyphenylpyridine Complex" by Wang et al. (C) 2273
  - Highly Efficient White Organic Electroluminescence from a Double-Layer Device Based on a Boron Hydroxyphenylpyridine Complex (C) 182
  - Reply (L) 2274
- Electron acceptors**
- Cyanoethynylethenes: A Class of Powerful Electron Acceptors for Molecular Scaffolding (C) 3044
- Electron-counting rules**
- Hypoelectronic Dimetallaboranes (H) 4220
  - Spherical Homoaromaticity (C) 4309
- Electron-deficient compounds**
- Identification of Jahn-Teller Effects in both Singlet and Triplet Low-Energy States of [(η<sup>6</sup>-benzene)Nb(CO)<sub>3</sub>]<sup>+</sup> (C) 2120
- Electron density distribution**
- Charge-Density Study of Methane Di-(triimido)sulfonic Acid H<sub>2</sub>C[S(NrBu)<sub>2</sub>(NHrBu)]<sub>2</sub>—the NR Analogue of H<sub>2</sub>C[S(O)<sub>2</sub>(OH)]<sub>2</sub> (C) 2079
- Electronic components**
- Functionalization of Single-Walled Carbon Nanotubes (M) 1853

- Electronic devices**
- Synthesis of Amphiphilic Conjugated Diblock Oligomers as Molecular Diodes (C) 3598 Corrigendum: 4612
- Electronic properties**
- Recent Advances in Synthesis and Applications of Transition Metal Containing Mesoporous Molecular Sieves (R) 214
- Electronic structure**
- A Planar, Aromatic *bicyclo*-Tetraborane(4) (C) 1529
  - Aromatic Boranes with Planar-Tetra-coordinate Boron Atoms and Very Short B-B Distances (C) 1526
  - Bifunctional Cp<sup>+</sup>N Complexes—Unusual Structural Features and Electronic Coupling in Highly Preorganized Bimetallic Systems (C) 2304
  - Design Optimization of 1,3-Diphospho-2,4-diboretane Diradicals (C) 3894
  - Electronic Structure and Bonding in Hexacoordinate Silyl-Palladium Complexes (C) 1953
  - Heterodinuclear Transition-Metal Complexes with Multiple Metal-Metal Bonds (R) 3948
  - Hexakis(silyl)palladium(IV) or Palladium(II) with η<sup>2</sup>-Disilane Ligands? (C) 1956
  - The First Isolable 4-Silatriafulvene (C) 1402
  - Valence-Ordering Structures and Magnetic Behavior of Metallic MMX Chain Compounds (C) 2767
- Electron microscopy**
- A One-Dimensional BaI<sub>2</sub> Chain with Five- and Six-Coordination, Formed within a Single-Walled Carbon Nanotube (C) 1156
  - Diffusion-Limited, Aggregation-Based, Mesoscopic Assembly of Roughened Core-Shell Bimetallic Nanoparticles into Fractal Networks at the Air-Water Interface (C) 1040
  - Icosahedral Virus Particles as Addressable Nanoscale Building Blocks (C) 459
  - Ln<sub>13</sub>Br<sub>18</sub>B<sub>3</sub> (Ln=Gd, Tb)—A Compound Containing a Combination of Discrete and Condensed Clusters (C) 4257
  - Mechanism of the Transformation of Silica Precursor Solutions into Si-MFI Zeolite (C) 2558
  - Micelles and Hollow Nanospheres Based on ε-Caprolactone-Containing Polymers in Aqueous Media (C) 2950
  - Nanotubes of Group 4 Metal Disulfides (C) 3451
  - One-Step Preparation of Block Copolymer Vesicles with Preferentially Segregated Acidic and Basic Corona Chains (C) 1001
  - Probing the Spatial Distribution and Morphology of Supported Nanoparticles Using Rutherford-Scattered Electron Imaging (C) 3804
  - Super-Hydrophobic Surface of Aligned Polyacrylonitrile Nanofibers (C) 1221
  - Synthesis and Characterization of Lanthanide Hydroxide Single-Crystal Nanowires (C) 4790
- Electron tomography**
- Probing the Spatial Distribution and Morphology of Supported Nanoparticles Using Rutherford-Scattered Electron Imaging (C) 3804
- Electron transfer**
- A Model Nucleoside for Electron Injection into DNA: 5-Pyrenyl-2'-Deoxyribose (C) 2978

- Barrier Height Titration by Tunable Photoionization Combined with Chemical Monitoring: Unimolecular Keto/Enol Tautomerization of the Acetamide Cation Radical (C) 2748
- Comparison of Reorganization Energies for Intra- and Intermolecular Electron Transfer (C) 2344
- DNA-Mediated Electron Transfer across Synthetic T:A·T Triplex Structures (C) 3485
- Dynamics and Energetics of Hole Trapping in DNA by 7-Deazaguanine (C) 1026
- Electron-Hole Pairs Stabilized in Al-ZSM-5 Zeolites (C) 1241
- Electron-Transfer Dynamics of Cytochrome C: A Change in the Reaction Mechanism with Distance (C) 4700
- Isoprenoid Biosynthesis through the Methylerythritol Phosphate Pathway: The (*E*)-4-Hydroxy-3-methylbut-2-enyl Diphosphate Synthase (GcpE) is a [4Fe-4S] Protein (C) 4337
- Proton-Coupled Electron Transfer from Phosphorus: A P-H/P-D Kinetic Isotope Effect of 178 (C) 1395
- Samarium Diodide-Mediated Reductive Coupling of Epoxides and Carbonyl Compounds: A Stereocontrolled Synthesis of C-Glycosides from 1,2-Anhydro Sugars (C) 3242
- SASAPOS, not Sisyphe: Highly Efficient 20-Step One-Pot Synthesis of a Discrete Organic-Inorganic Ion Cluster with a Porphyrin Core (C) 3815
- The Mechanism of Catalytic Enantioselective Fluorination: Computational and Experimental Studies (C) 979
- Thermal Intramolecular Electron Transfer in a Ferrocene-Naphthoquinone Linked Dyad Promoted by Metal Ions (C) 620
- Weak Distance Dependence of Excess Electron Transfer in DNA (C) 1763
- Electron transport
  - A *trans*-Platinum(II) Complex as a Single-Molecule Insulator (C) 1183
  - Magnetization of Chiral Monolayers of Polypeptide: A Possible Source of Magnetism in Some Biological Membranes (C) 761
- Electrooptic properties
  - Nanostructured Molecular Materials for Device-Quality, Highly Efficient Electrooptic Poled Polymers (H) 3363
- Electrophilic addition
  - Kinetic Studies of Carbocation-Carbanion Combinations: Key to a General Concept of Polar Organic Reactivity (C) 91
  - Stereoselective Prins Cyclizations of  $\delta,\epsilon$ -Unsaturated Ketones to *cis*-3-Chlorocyclohexanols with  $\text{TiCl}_4$  (C) 491
- Electrophilic substitution
  - Configurational Stability and Transfer of Stereochemical Information in the Reactions of Enantioenriched Organolithium Reagents (R) 716
  - Do Isopropyl and *tert*-Butyl Cations Form  $\pi$  Complexes with Benzene? (C) 3208
  - How Attractive is Bromine as a Protecting Group in Aromatic Chemistry? (H) 1699
- Electrophoresis
  - Capillary Electrophoresis Analysis of DNA Adducts as Biomarkers for Carcinogenesis (C) 445
- Electrostatic interactions
  - A Combined Effect of Molecular Electrostatic Potential and N7 Accessibility Explains Sequence-Dependent Binding of  $\text{cis-}[\text{Pt}(\text{NH}_3)_2(\text{H}_2\text{O})_2]^{2+}$  to DNA Duplexes (C) 2998
  - Colorimetric and Fluorometric Detection of Nucleic Acids Using Cationic Polythiophene Derivatives (C) 1548
  - SASAPOS, not Sisyphe: Highly Efficient 20-Step One-Pot Synthesis of a Discrete Organic-Inorganic Ion Cluster with a Porphyrin Core (C) 3815
  - The Hydrogen Bond in the Solid State (R) 48
- Elimination
  - A New Entry to the Stereoselective Introduction of an Ethynyl Group by a Radical Reaction: Synthesis of the Potential Antimetabolite 2'-Deoxy-2'-C-ethynyluridine (C) 4748
  - Characterization of a  $\Delta^8$ -Sphingolipid Desaturase from Higher Plants: A Stereochemical and Mechanistic Study on the Origin of *E,Z* Isomers (C) 2298
  - From Vinyl Sulfides, Sulfoxides, and Sulfones to Vinyl Transition Metal Complexes (C) 1410
  - Functionalization of Elemental Phosphorus with  $[\text{Zr}(\eta^5\text{-C}_5\text{Me}_5)(\eta^5\text{-C}_5\text{H}_4\text{Bu})\text{H}_2]_2$  (C) 3463
  - Generation of Reactivity from Typically Stable Ligands: C-C Bond-Forming Reductive Elimination from Aryl Palladium(II) Complexes of Malonate Anions (C) 4289
- Emigration
  - Chemists and Biochemists during the National Socialist Era (R) 1310
- Enamides
  - A Chiral 1,2-Bisphospholane Ligand with a Novel Structural Motif: Applications in Highly Enantioselective Rh-Catalyzed Hydrogenations (C) 1612
- Enantioselective transport
  - Use of Enzymes Deactivated by Site-Directed Mutagenesis for the Preparation of Enantioselective Membranes (C) 2960
- Enantioselectivity
  - A Highly Enantioselective Receptor for *N*-Protected Glutamate and Anomalous Solvent-Dependent Binding Properties (C) 4233
  - Asymmetric Baeyer-Villiger Reaction with Hydrogen Peroxide Catalyzed by a Novel Planar-Chiral Bisflavin (C) 2366
  - "Asymmetric" Catalysis by Lanthanide Complexes (R) 3554
  - Asymmetric, Catalytic Phenyl Transfer to Imines: Highly Enantioselective Synthesis of Diarylmethylamines (C) 3692
  - Atom-Transfer Tandem Radical Cyclization Reactions Promoted by Lewis Acids (C) 3014
  - Benzylic *endo*-Alkylation of Phthalan-Cr(CO)<sub>3</sub> Complexes via Temporary Silylation: An Entry to *trans*-1,3-Disubstituted Dihydroisobenzofurans (C) 2525
  - Configurational Stability and Transfer of Stereochemical Information in the Reactions of Enantioenriched Organolithium Reagents (R) 716
  - Enantioselective Alkylative Double Ring Opening of Epoxides: Synthesis of Enantioenriched Unsaturated Diols and Amino Alcohols (C) 4313
  - Enantioselective C-C Bond Formation with Titanium(IV) Alkoxides—an Unusual Alkylation (C) 1361
- Enantioselective Photochromic Reaction of a [2.2]Metacyclophan-1-ene (C) 2156
- Enantioselective Synthesis of Substituted Pyrrolidines by Dynamic Resolution (C) 3887
- Highly Enantioselective Cycloisomerization of Enynes Catalyzed by Rhodium for the Preparation of Functionalized Lactams (C) 4526
- Highly Enantioselective Rh-Catalyzed Intramolecular Alder-Ene Reactions for the Syntheses of Chiral Tetrahydrofurans (C) 3457
- Palladium-Catalyzed Asymmetric Allylic Alkylation of  $\alpha$ -Aryl Ketones (C) 3492
- The Shortest Route to Chiral Ditosylmethylamine (C) 497
- Endotoxigenesis
  - Active Immunization with a Glycolipid Transition State Analogue Protects against Endotoxic Shock (C) 4241
- Ene-dienynes
  - A Route to 5-Substituted Dibenzofurans by Anionic Cycloaromatization of 2-(6-substituted 3-hexen-1,5-diynyl)phenyl *tert*-butyldimethyl ethers and Related Molecules (C) 4077
  - Enantioselective Synthesis of Kedarcidin Chromophore Aglycon in Differentially Protected Form (C) 1062
- Energy-dissipating systems
  - Autonomous Movement and Self-Assembly (C) 652
- Energy transfer
  - Encapsulated Lanthanides as Luminescent Materials (H) 2495
  - Light-Harvesting Dendrimers: Efficient Intra- and Intermolecular Energy-Transfer Processes in a Species Containing 65 Chromophoric Groups of Four Different Types (C) 3595
  - Shape-Persistent, Fluorescent Polyphenylene Dyads and a Triad for Efficient Vectorial Transduction of Excitation Energy (C) 1900
- Enol ethers
  - Development of a Co-Mediated Rearrangement Reaction (C) 2584
- Enols
  - Oxidation of Silyl Enol Ethers by Using IBX and IBX·*N*-Oxide Complexes: A Mild and Selective Reaction for the Synthesis of Enones (C) 996
- Enones
  - A Highly Enantioselective and General Conjugate Addition of Thiols to Cyclic Enones with an Organic Catalyst (C) 338
  - $\text{HIO}_3$  and  $\text{I}_2\text{O}_5$ : Mild and Selective Alternative Reagents to IBX for the Dehydrogenation of Aldehydes and Ketones (C) 1386
  - Lewis Acid Controlled Regioselective 1,2 and 1,4 Reaction of  $\alpha,\beta$ -Unsaturated Carbonyl Compounds with  $\text{Ti}^{\text{IV}}$  Enolates Derived from  $\alpha$ -Diazo  $\beta$ -Keto Carbonyl Compounds (C) 2773
  - Modulation of the Reactivity Profile of IBX by Ligand Complexation: Ambient Temperature Dehydrogenation of Aldehydes and Ketones to  $\alpha,\beta$ -Unsaturated Carbonyl Compounds (C) 993
- Enynes
  - The Effect of a Hydroxy Protecting Group on the  $\text{PtCl}_2$ -Catalyzed Cyclization of Dienynes—A Novel, Efficient, and Selective Synthesis of Carbocycles (C) 2132

## Enzyme assays

- A Molecular Beacon for Quantitative Monitoring of the DNA Polymerase Reaction in Real-Time (C) 3620
- New Methods for the High-Throughput Screening of Enantioselective Catalysts and Biocatalysts (H) 1335
- The Adrenaline Test for Enzymes (C) 1229

## Enzyme catalysis

- Activity of Lipases and Esterases towards Tertiary Alcohols: Insights into Structure–Function Relationships (C) 3211
- Aldolase-Catalyzed Asymmetric Synthesis of Novel Pyranose Synthons as a New Entry to Heterocycles and Epothilones (C) 1404
- Biocatalytic Asymmetric Hydrogen Transfer (C) 1014
- Biomimetic NAD<sup>+</sup> Models for Tandem Cofactor Regeneration, Horse Liver Alcohol Dehydrogenase Recognition of 1,4-NADH Derivatives, and Chiral Synthesis (C) 478
- Characterization of a  $\Delta^8$ -Sphingolipid Desaturase from Higher Plants: A Stereochemical and Mechanistic Study on the Origin of *E,Z* Isomers (C) 2298
- *cis*–*trans* Selectivity of Enzyme-Catalyzed Additions to 4-Substituted Cyclohexanones—Correlation with the Prelog/Ringold Model of Enzymatic Hydrogenation (C) 1876
- Cyclization of (–)-Pregaliellalactone in the Fungus *Galiella rufa* (C) 2158
- Deracemization of  $\alpha$ -Methylbenzylamine Using an Enzyme Obtained by In Vitro Evolution (C) 3177
- Direct Screening for Phosphatase Activity by Turnover-Based Capture of Protein Catalysts (C) 775 Corrigendum: 1460
- Giant Amphiphiles by Cofactor Reconstitution (C) 4239
- Highly Enantioselective Preparation of Multifunctionalized Propargylic Building Blocks (C) 634
- Hydrogen Bonding Modulates the Selectivity of Enzymatic Oxidation by P450: Chameleon Oxidant Behavior by Compound I (C) 1947
- Phosphite Dehydrogenase: A Versatile Cofactor-Regeneration Enzyme (C) 3257
- Remarkable Cooperativity between a Zn<sup>II</sup> Ion and Guanidinium/Ammonium Groups in the Hydrolysis of RNA (C) 4013
- Substrate Distortion by a  $\beta$ -Mannanase: Snapshots of the Michaelis and Covalent-Intermediate Complexes Suggest a *B*<sub>2,5</sub> Conformation for the Transition State (C) 2824
- Synthesis of Neo-Peptidoglycans: An Unexpected Activity of Proteases (C) 2735

## Enzyme inhibitors

- A Molecular Beacon for Quantitative Monitoring of the DNA Polymerase Reaction in Real-Time (C) 3620

## Enzyme models

- A Structural and Functional Model of Galactose Oxidase: Control of the One-Electron Oxidized Active Form through Two Differentiated Phenolic Arms in a Tripodal Ligand (C) 3047
- A 1,3,5-Triaxial Triaminocyclohexane: The Triamine Corresponding to Kemp's Triacid (C) 2581

- A Trigonal-Bipyramidal Ferric Aqua Complex with a Sterically Hindered Salen Ligand as a Model for the Active Site of Protocatechuate 3,4-Dioxygenase (C) 3638
- Mimicking Metallophosphatases: Revealing a Role for an OH Group with No Libido (C) 849
- The First Water-Soluble Copper(II) Calix[6]arene Complex Presenting a Hydrophobic Ligand Binding Pocket: A Remarkable Model for Active Sites in Metalloenzymes (C) 1044

## Enzymes

- Biominalization in Diatoms Mediated through Peptide- and Polyamine-Assisted Condensation of Silica (H) 3167
- Cell-Free Biosynthesis of Fluoroacetate and 4-Fluorothreonine in *Streptomyces cattleya* (C) 3913
- Enzymatic Generation and In Situ Screening of a Dynamic Combinatorial Library of Sialic Acid Analogues (C) 3405
- Giant Amphiphiles by Cofactor Reconstitution (C) 4239
- In Situ Enzymatic Screening (ISES): A Tool for Catalyst Discovery and Reaction Development (C) 1603
- Isoprenoid Biosynthesis through the Methylerythritol Phosphate Pathway: The (*E*)-4-Hydroxy-3-methylbut-2-enyl Diphosphate Synthase (GcpE) is a [4Fe–4S] Protein (C) 4337
- Mechanistic Studies of HPP Epoxidase: Configuration of the Substrate Governs Its Enzymatic Fate (C) 4529
- Proof of Principle in the Selective Treatment of Cancer by Antibody-Directed Enzyme Prodrug Therapy: The Development of a Highly Potent Prodrug (C) 759
- Synthesis and Evaluation of Transition-State Analogue Inhibitors of  $\alpha$ -1,3-Fucosyltransferase (C) 3041
- The Determination of the Absolute Configurations of Diastereomers of (*S*)-Camphanoyl 3-Hydroxy-5-oxohexanoic Acid Derivatives by X-ray Crystallography (C) 1198

## Eosin

- Light-Harvesting Dendrimers: Efficient Intra- and Intermolecular Energy-Transfer Processes in a Species Containing 65 Chromophoric Groups of Four Different Types (C) 3595

## Epothilones

- Aldolase-Catalyzed Asymmetric Synthesis of Novel Pyranose Synthons as a New Entry to Heterocycles and Epothilones (C) 1404
- Stereoselective Total Synthesis of Epothilones by the Metathesis Approach Involving C9–C10 Bond Formation (C) 1381

## Epoxidation

- A Stereoselective Route to Guanacastepene A through a Surprising Epoxidation (C) 2188
- Asymmetric Epoxidation of Allyl Alcohol on Organic–Inorganic Hybrid Chiral Catalysts Grafted onto the Surface of Silica and in the Mesopores of MCM-41 (C) 821
- Hydrogen Bonding Modulates the Selectivity of Enzymatic Oxidation by P450: Chameleon Oxidant Behavior by Compound I (C) 1947
- Searching for New Reactivity (Nobel Lecture) (R) 2024
- Stereospecific Interconversion between *cis* and *trans* 2,3-Epoxythiols (C) 819

- Titanium Silsesquioxanes Grafted on Three-Dimensionally Netted Polysiloxanes: Catalytic Ensembles for Epoxidation of Alkenes with Aqueous Hydrogen Peroxide (C) 637

## Epoxides

- A Practical Oligomeric [(salen)Co] Catalyst for Asymmetric Epoxide Ring-Opening Reactions (C) 1374
- Chiral Epoxides by Desymmetrizing Deprotonation of *meso*-Epoxides (C) 2376
- Enantiopure  $\beta$ -Hydroxy Morpholine Amides from Terminal Epoxides by Carbonylation at 1 atm (C) 4703
- Enantioselective Alkylative Double Ring Opening of Epoxides: Synthesis of Enantioenriched Unsaturated Diols and Amino Alcohols (C) 4313 Corrigendum: 4611
- Highly Enantioselective Preparation of Multifunctionalized Propargylic Building Blocks (C) 634

## Epoxyquinol

- Total Synthesis of (+)-Epoxyquinols A and B (C) 3192

## EPR spectroscopy

- A Diferric Peroxo Complex with an Unprecedented Spin Configuration: An *S* = 2 System Arising from an *S* = 5/2, 1/2 Pair (C) 617
- Direct Observation of Radicals in the Activation of Ziegler–Natta Catalysts (C) 1517
- Electron-Hole Pairs Stabilized in Al-ZSM-5 Zeolites (C) 1241
- Long-Distance Magnetic Interaction between a Mn<sup>III</sup>Mn<sup>IV</sup> (*S* = 1/2) Core and an Organic Radical: A Spectroscopic Model for the S<sub>2</sub>Y<sub>2</sub> State of Photosystem II (C) 4775
- Monomeric Compounds Containing the *cis*-[V(=O)(OH)]<sup>+</sup> Core (C) 2797
- Octametallic and Hexadecametallic Ferric Wheels (C) 4318
- Selective Measurements of a Nitroxide–Nitroxide Separation of 5 nm and a Nitroxide–Copper Separation of 2.5 nm in a Terpyridine-Based Copper(II) Complex by Pulse EPR Spectroscopy (C) 3907
- Structural Dependence of Redox-Induced Dimerization as Studied by In Situ ESR/UV/Vis-NIR Spectroelectrochemistry: The Fluoranthenopyracylene Oligomers (C) 2082
- Thermal Intramolecular Electron Transfer in a Ferrocene–Naphthoquinone Linked Dyad Promoted by Metal Ions (C) 620
- The Synthesis of the First Compound with Li–Si–Hg Bonding: [(Li(*i*Pr<sub>3</sub>Si)<sub>2</sub>–Si)<sub>2</sub>Hg]—a Source for the [Li(*i*Pr<sub>3</sub>Si)<sub>2</sub>Si] Radical (C) 649

## ESEEM spectroscopy

- Monomeric Compounds Containing the *cis*-[V(=O)(OH)]<sup>+</sup> Core (C) 2797

## Esterases

- Activity of Lipases and Esterases towards Tertiary Alcohols: Insights into Structure–Function Relationships (C) 3211

## Esters

- Evidence for a Hydroxide Ion Catalyzed Pathway in Ester Hydrolysis in Supercritical Water (C) 623
- Fluorous Biphasic Esterification Directed towards Ultimate Atom Efficiency (C) 4117
- Palladium-Catalyzed  $\alpha$ -Arylation of Esters: Ideal New Methodology for Discovery Chemistry (H) 953

- Pd-Catalyzed Decarbonylative Olefination of Aryl Esters: Towards a Waste-Free Heck Reaction (C) 1237
- Ethics
  - Can Moral Norms be Rationally Justified? (E) 3353
- Ethylene
  - The Chemistry of the Oxochlorination Catalyst: an In Situ, Time-Resolved XANES Study (C) 2341
- Europium
  - "Molecular Symmetry Breakers" Generating Metal-Oxide-Based Nanoobject Fragments as Synthons for Complex Structures:  $[\text{Mo}_{128}\text{Eu}_4\text{O}_{388}\text{H}_{10}(\text{H}_2\text{O})_{81}]^{20-}$ , a Giant-Cluster Dimer (C) 2805
  - Sensitized Luminescence of Trivalent Europium by Three-Dimensionally Arranged Anatase Nanocrystals in Mesoporous Titania Thin Films (C) 959
- Every-day chemistry
  - Molecular Gastronomy (E) 83
- Evolution
  - The Chemistry of the Antibody Molecule (M) 4427
- EXAFS spectroscopy
  - An Axiially Bridged Indium Phthalocyanine Dimer with an In-In Bond (C) 3239
- Exonuclease
  - A Further Step towards Single-Molecule Sequencing: *Escherichia coli* Exonuclease III Degrades DNA that is Fluorescently Labeled at Each Base Pair (C) 3215
- Farnesyltransferase inhibitors
  - Solid-Phase Synthesis and Biological Evaluation of a Peptidocinnamin E Library (C) 3616
- Fatty acids
  - Biosynthesis of Polyunsaturated Fatty Acids by Polyketide Synthases (H) 1866
- Fenestrane
  - Synthesis of *cis,cis,cis,cis*-[5.5.5.5]-1-Aza-fenestrane (C) 4122
- Ferric wheels
  - $[\text{Fe}(\text{OMe})_2\text{O}_2\text{CC}(\text{OH})\text{Ph}]_{12}$ : Synthesis and Characterization of a New Member in the Family of Molecular Ferric Wheels with the Carboxylatobis(alkoxo) Bridging Unit (C) 2386
- Ferrimagnetism
  - A Three-Dimensional Homometallic Molecular Ferrimagnet (C) 1561
- Ferrocenyl ligands
  - New Ferrocenyl Ligands with Broad Applications in Asymmetric Catalysis (C) 4708
- Ferroelectricity
  - Chirality and Macroscopic Polar Order in a Ferroelectric Smectic Liquid-Crystalline Phase Formed by Achiral Polyphileic Bent-Core Molecules (C) 2408
- Ferromagnets
  - An Enantiopure Molecular Ferromagnet (C) 586
  - Targeted Synthesis of Ferromagnetically Coupled Complexes with Modified 1,3,5-Trihydroxybenzene Ligands (C) 3823
- Fischer, Emil
  - Emil Fischer—Unequalled Classicist, Master of Organic Chemistry Research,



- and Inspired Trailblazer of Biological Chemistry (E) 4439
- Flavins
  - Fluorescent Deazaflavin-Oligonucleotide Probes for Selective Detection of DNA (C) 486
- Fluorescence
  - A Further Step towards Single-Molecule Sequencing: *Escherichia coli* Exonuclease III Degrades DNA that is Fluorescently Labeled at Each Base Pair (C) 3215
  - An Azulene Dimer as a Near-Infrared Quencher (C) 3659
  - Boron Chemistry Lights the Way: Optical Properties of Molecular and Polymeric Systems (M) 2927
  - Colorimetric and Fluorometric Detection of Nucleic Acids Using Cationic Polythiophene Derivatives (C) 1548
  - Drastic Luminescence Response to Carbon Monoxide from a  $\text{Ru}^{\text{II}}$  Complex Containing a Hemilabile Phosphane Pyrene Ether (C) 1898
  - Electrochemical Modulation of Fluorophore Emission on a Nanostructured Gold Film (C) 2764
  - Fabrication of Carbohydrate Chips for Studying Protein-Carbohydrate Interactions (C) 3180
  - Fluorescence Enhancement through Enzymatic Cleavage of Internally Quenched Dendritic Peptides: A Sensitive Assay for the AspN Endoprotease (C) 3233
  - Fluorescence Spectroscopic Quantification of the Release of Cyclic Nucleotides from Photocleavable  $[\text{Bis}(\text{carboxymethoxy})\text{coumarin-4-yl}]\text{methyl Esters}$  inside Cells (C) 3625
  - Fluorescent Deazaflavin-Oligonucleotide Probes for Selective Detection of DNA (C) 486
  - Light-Harvesting Dendrimers: Efficient Intra- and Intermolecular Energy-Transfer Processes in a Species Containing 65 Chromophoric Groups of Four Different Types (C) 3595
  - Multiple Emissions from 1,3-Diphenyl-5-pyrenyl-2-pyrazoline Nanoparticles: Evolution from Molecular to Nanoscale to Bulk Materials (C) 962
  - Synthesis of Very Thin 1D and 2D  $\text{CdWO}_4$  Nanoparticles with Improved Fluorescence Behavior by Polymer-Controlled Crystallization (C) 2356
  - Synthesis, Spectroscopy, and Solid-State Structural Characterization of the Hexanuclear Copper Macrocycle  $[\text{Cu}_6\text{Cl}_6(\mu\text{-PCHP})_6]$  (C) 2571
  - Trapping Energy from and Injecting Energy into Dye-Zeolite Nanoantennae (C) 2284
- Fluorescence spectroscopy
  - A Method To Identify and Screen Libraries of Guests That Complex to a Synthetic Host (C) 1004
  - Biomimetic Model of a Plant Photosystem Consisting of a Recombinant Light-Harvesting Complex and a Terrylene Dye (C) 3378
  - DNA-Mediated Electron Transfer across Synthetic T:A·T Triplex Structures (C) 3485
  - Three-Dimensional Electronic Delocalization in Chiral Conjugated Polymers (C) 4225
- Fluorescent probes
  - A Europium-Ion-Based Luminescent Sensing Probe for Hydrogen Peroxide (C) 4495

- Bispyrene-Conjugated 2'-O-Methyloligonucleotide as a Highly Specific RNA-Recognition Probe (C) 3648
- Detection of Individual p53-Autoantibodies by Using Quenched Peptide-Based Molecular Probes (C) 4769
- Pyrophosphate Detection in Water by Fluorescence Competition Assays: Inducing Selectivity through the Choice of the Indicator (C) 3811
- Signal Amplification by a Fluorescent Indicator of a pH-Driven Intramolecular Translocation of a Copper(II) Ion (C) 2553
- Fluorides
  - A New Crystal Modification of Chromium Tetrafluoride:  $\beta\text{-CrF}_4$  (C) 1398
  - Is Fluoride Bonded to Two Pd Acceptors Still Basic? Three  $\text{CH}_2\text{Cl}_2$  Molecules Encapsulating a  $\text{Pd}_2(\mu\text{-F})_2$  Square and New Implications for Catalysis (C) 4476
  - Selective Recognition of Fluoride Anion Using a  $\text{Li}^+$ -Metallacrown Complex (C) 1419
  - Two-Step, Stereoselective Hydrazidoarylation of 1,3-Cyclopentadiene (C) 3375
- Fluorinated ligands
  - Conversion of Hexafluoropropene into 1,1,1-Trifluoropropane by Rhodium-Mediated C-F Activation (C) 2745
  - Introduction of Bulky Perfluoroalkyl Groups at the Periphery of Zinc Perfluorophthalocyanine: Chemical, Structural, Electronic, and Preliminary Photophysical and Biological Effects (C) 747
  - Synthesis and Structure of a Biconcave Cobalt Perfluorophthalocyanine and Its Catalysis of Novel Oxidative Carbon-Phosphorus Bonds Formation by Using Air (C) 750
- Fluorinated solvents
  - Baeyer-Villiger Oxidations with Hydrogen Peroxide in Fluorinated Alcohols: Lactone Formation by a Nonclassical Mechanism (C) 4481
- Fluorination
  - The Mechanism of Catalytic Enantioselective Fluorination: Computational and Experimental Studies (C) 979
- Fluorine
  - Cell-Free Biosynthesis of Fluoroacetate and 4-Fluorothreonine in *Streptomyces cattleya* (C) 3913
  - Conversion of Hexafluoropropene into 1,1,1-Trifluoropropane by Rhodium-Mediated C-F Activation (C) 2745
  - Fluoroformic Acid Anhydride,  $\text{FC}(\text{O})\text{O}-\text{C}(\text{O})\text{F}$  (C) 3832
- Fluoroarenes
  - A One-Pot Synthesis of Chromophoric Silicate-Based Xerogels (C) 1729
- Fluorous biphasic catalysis
  - Fluorous Biphasic Catalysis without Perfluorinated Solvents: Application to Pd-Mediated Suzuki and Sonogashira Couplings (C) 4500
- Fluxionality
  - A  $\text{C}_{2v}$ -Symmetric Barbaralane (C) 3429
  - Zinc(II) Slides on a Ligand Surface: The X-Ray Crystal Structure and Dynamic Behavior in Solution of  $[\text{Zn}(\text{H}_2\text{L})(\text{tacn})]$  (C) 2076
- Foldamers
  - Foldamers as Dynamic Receptors: Probing the Mechanism of Molecular Association between Helical Oligomers and Rodlike Ligands (C) 325
- Food science
  - Molecular Gastronomy (E) 83

## Force-field calculations

- Ligand Rotation Distinguishes First- and Second-Generation Ruthenium Metathesis Catalysts (C) 4484

## Formylmethyl ligand

- Rearrangement of 3-Rhoda-1,2-dioxolanes to Rhodium Formylmethyl Hydroxy Complexes (C) 575

## Fosfomycin

- Mechanistic Studies of HPP Epoxidase: Configuration of the Substrate Governs Its Enzymatic Fate (C) 4529

## Fractals

- Diffusion-Limited, Aggregation-Based, Mesoscopic Assembly of Roughened Core–Shell Bimetallic Nanoparticles into Fractal Networks at the Air–Water Interface (C) 1040

## Fragmentation

- Access to C-15 Macrocyclic Ketones by Iterative Fragmentations of a Tricyclic System (C) 4523

## Fragrances

- Access to C-15 Macrocyclic Ketones by Iterative Fragmentations of a Tricyclic System (C) 4523

## FRET (fluorescence resonance energy transfer)

- Bispyrene-Conjugated 2'-O-Methyloligonucleotide as a Highly Specific RNA-Recognition Probe (C) 3648

## Fullerenes

- A Dendritic Porphyrin Receptor for C<sub>60</sub> Which Features a Profound Positive Allosteric Effect (C) 2790
- A Helical Array of Pendant Fullerenes on an Optically Active Polyphenylacetylene (C) 3602
- A Supramolecular Array of Fullerenes by Quadruple Hydrogen Bonding (C) 838
- Comparison of Reorganization Energies for Intra- and Intermolecular Electron Transfer (C) 2344
- Expanded Cubane: Synthesis of a Cage Compound with a C<sub>56</sub> Core by Acetylenic Scaffolding and Gas-Phase Transformations into Fullerenes (C) 4339
- Reversible Binding of C<sub>60</sub> to an Anthracene Bearing a Dendritic Poly(amidoamine) Substituent to give a Water-Soluble Fullerodendrimer (C) 817
- Structural Analysis of C<sub>60</sub> Trimers by Direct Observation with Scanning Tunneling Microscopy (C) 969
- The Supercritical Fluid Antisolvent Synthesis of C<sub>60</sub>(C<sub>2</sub>H<sub>4</sub>) (x=4 or 6); The Crystal Structures of Two Materials Which Were Thought Unlikely to Exist (C) 3796

## Furanes

- The HfCl<sub>4</sub>-Mediated Diels–Alder Reaction of Furan (C) 4079



## Gadolinium

- An Inclusion Complex with [Gd(dmf)<sub>8</sub>]<sup>3+</sup> Ions Encapsulated in Pockets of an Anionic Array of [Cu<sub>6</sub>(CN)<sub>9</sub>]<sup>3-</sup> Units; A Cyanide-Bridged Cu–Gd Layer Structure (C) 3609

## Gallium

- A Highly Regioselective Synthesis of Polysubstituted Naphthalene Deriva-

tives through Gallium Trichloride Catalyzed Alkyne–Aldehyde Coupling (C) 2138

- Characterization and Photochemistry of the Gallium and Indium Subhydrides Ga<sub>3</sub>H<sub>2</sub> and In<sub>3</sub>H<sub>2</sub> (C) 796

– Gallium Flux Synthesis of Tb<sub>3–4</sub>C<sub>2</sub>Si<sub>8</sub>(B<sub>12</sub>)<sub>3</sub>: A Novel Quaternary Boron-Rich Phase Containing B<sub>12</sub> Icosahedra (C) 844

- [Ga<sub>22</sub>[N(SiMe<sub>3</sub>)<sub>2</sub>]<sub>10</sub>]<sup>2-</sup>: A Metalloid Cluster Compound with a Variation of the Ga<sub>22</sub> Framework (C) 1882

– [Li(thf)<sub>3</sub>]<sub>2</sub>Ga<sub>2</sub>[As(SiPr<sub>3</sub>)<sub>4</sub>]<sub>4</sub>—A Compound with Gallium–Arsenic Double Bonds (C) 2095

- Luminescence Phenomena and Solid-State Structures of Trimethyl- and Triethylgallium (C) 2519

– Metalloid Aluminum and Gallium Clusters: Element Modifications on the Molecular Scale? (R) 3532 Corrigendum: 4170

- Synthesis and Characterization of the Neutral “Digallene” Ar'GaGaAr' and Its Reduction to Na<sub>2</sub>Ar'GaGaAr' (Ar' = 2,6-Dipp<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, Dipp = 2,6-iPr<sub>2</sub>C<sub>6</sub>H<sub>3</sub>) (C) 2842

## Gas encapsulation

- “Molecular” Molecular Sieves: Lid-Free Decamethylcucurbit[5]uril Absorbs and Desorbs Gases Selectively (C) 3020

## Gas-phase reactions

- Hydrolytic Activation of C–F Bonds in the Gas Phase by Intrinsically Unreactive Chromium Cations (C) 2538 Corrigendum: 3085

## Gels

- Arene–Perfluoroarene Interactions as Physical Cross-Links for Hydrogel Formation (C) 1563

– Immobilized Highly Charged Colloidal Crystals: A New Route to Three-Dimensional Mesoscale Structured Materials (C) 102

- Nonrelaxable Anisotropic Organization of Organic–Inorganic Hybrid Materials Induced by an Electric Field (C) 594

## Gene expression

- A Bacterial Small-Molecule Three-Hybrid System (C) 2327

– Global Replacement of Tryptophan with Aminotryptophans Generates Non-Invasive Protein-Based Optical pH Sensors (C) 4066

## Gene technology

- Dendritic Polymers in Biomedical Applications: From Potential to Clinical Use in Diagnostics and Therapy (M) 1329

– High-Performance Fibers from Spider Silk (H) 2721

- Small Interfering RNAs and Their Chemical Synthesis (H) 2265

## Germanium

- Low-Temperature Synthesis of Single-Crystal Germanium Nanowires by Chemical Vapor Deposition (C) 4783

– Preferential Location of Ge Atoms in Polymorph C of Beta Zeolite (ITQ-17) and Their Structure-Directing Effect: A Computational, XRD, and NMR Spectroscopic Study (C) 4722

- Selective Direct Synthesis of Organofunctionalized Dialkylgermanes from Solvothermally Activated Germanium (C) 1178

– Synthesis and Characterization of a Digermanium Analogue of an Alkyne (C) 1785

- The First Isolable 1,1-Dilithiogermane and Its Unusual Dimeric Structure—An Effective Reagent for the Preparation of Double-Bonded Derivatives of Group 14 Elements (C) 1598

– [HgGe<sub>9</sub>]<sup>2-</sup>—A Polymer with Zintl Ions as Building Blocks Covalently Linked by Heteroatoms (C) 3213

## Glasses

- Encapsulated Lanthanides as Luminescent Materials (H) 2495

## Global optimization

- Structural Transitions in Clusters (R) 1468

## Glutamate

- A Highly Enantioselective Receptor for N-Protected Glutamate and Anomalous Solvent-Dependent Binding Properties (C) 4233

## Glycans

- Enzymatic Elongation of the LEC14 Antigen Generates a β-1,2 Arm on N-Glycans (C) 4259

## Glyceraldehyde

- Butane-2,3-diacetals of Glyceraldehyde: A Stable Alternative to Glyceraldehyde Acetonide (C) 3898

## Glycoconjugates

- Active Immunization with a Glycolipid Transition State Analogue Protects against Endotoxic Shock (C) 4241

– Fabrication of Carbohydrate Chips for Studying Protein–Carbohydrate Interactions (C) 3180

- Glycosamino Acids: Building Blocks for Combinatorial Synthesis—Implications for Drug Discovery (R) 230

## Glycolipids

- A Model System Mimicking Glycosphingolipid Clusters to Quantify Carbohydrate Self-Interactions by Surface Plasmon Resonance (C) 1554

## Glycoluril

- Enantiomeric Self-Recognition of a Facial Amphiphile Triggered by [Pd(ONO<sub>2</sub>)(en)]<sub>2</sub> (C) 1905

## Glycomimetics

- Glycosamino Acids: Building Blocks for Combinatorial Synthesis—Implications for Drug Discovery (R) 230

## Glycopeptides

- Fluorobalhimycin—A New Chapter in Glycopeptide Antibiotic Research (C) 3383

– Induction of Cell Differentiation in Transformed Keratinocytes by Synthetic (Glyco)peptides from the Homophilic Recognition Domain of E-Cadherin (C) 4249

- Synthesis of Neo-Peptidoglycans: An Unexpected Activity of Proteases (C) 2735

– The (2-Phenyl-2-trimethylsilyl)ethyl-(PTMSEL) Linker—A Novel Linker for the Solid-Phase Synthesis of Protected Peptides and Glycopeptides Cleavable with Fluoride (C) 317

## Glycosidation

- Efficient Solid-Phase Synthesis of a Complex, Branched N-Glycan Hexasaccharide: Use of a Novel Linker and Temporary-Protecting-Group Pattern (C) 4489

## Glycosides

- Akashins A, B, and C: Novel Chlorinated Indigoglycosides from *Streptomyces* sp. GW 48/1497 (C) 597

– Enzymatic Elongation of the LEC14 Antigen Generates a β-1,2 Arm on N-Glycans (C) 4259

- Intramolecular 1,8-Hydrogen Abstraction Between Glucopyranose Units in a Disaccharide Model Promoted by Alkoxy Radicals (C) 856
- Proof of Principle in the Selective Treatment of Cancer by Antibody-Directed Enzyme Prodrug Therapy: The Development of a Highly Potent Prodrug (C) 759
- Synthesis of Biologically Potent  $\alpha 1 \rightarrow 2$ -Linked Disaccharide Derivatives via Regioselective One-Pot Protection–Glycosylation (C) 2360
- Total Synthesis of Woodrosin I (C) 2097
- Conformational Locking of the Glycosyl Acceptor for Stereocontrol in the Key Step in the Synthesis of Heparin (C) 2128
- Enzymatic Elongation of the LEC14 Antigen Generates a  $\beta$ -1,2 Arm on *N*-Glycans (C) 4259
- Reactivity-Based One-Pot Synthesis of a Lewis Y Carbohydrate Hapten: A Colon–Rectal Cancer Antigen Determinant (C) 4087
- Substrate Distortion by a  $\beta$ -Mannanase: Snapshots of the Michaelis and Covalent-Intermediate Complexes Suggest a  $B_{2.5}$  Conformation for the Transition State (C) 2824
- Synthesis of Biologically Potent  $\alpha 1 \rightarrow 2$ -Linked Disaccharide Derivatives via Regioselective One-Pot Protection–Glycosylation (C) 2360
- Using Mass Spectrometry to Characterize Self-Assembled Monolayers Presenting Peptides, Proteins, and Carbohydrates (C) 4715

## Glycosylnitrones

- First Synthesis of Optically Pure Propargylic *N*-Hydroxylamines by Direct, Highly Diastereoselective Addition of Terminal Alkynes to Nitrones (C) 3054

## Gold

- A Nanoscale Hybrid System Based on Gold Nanoparticles and Heteropolyanions (C) 501
- Au-Nanoparticle Nanowires Based on DNA and Polylysine Templates (C) 2323
- Cesiumauric Ammonia (1/1), CsAu·NH<sub>3</sub>: A Crystalline Analogue to Alkali Metals Dissolved in Ammonia? (C) 120
- Experimental Observation and Confirmation of Icosahedral W@Au<sub>12</sub> and Mo@Au<sub>12</sub> Molecules (C) 4786
- Fabrication of a Metal-Coated Three-Dimensionally Ordered Macroporous Film and its Application as a Refractive Index Sensor (C) 1153
- Gold–Xenon Complexes (C) 454
- Highly Efficient Au<sup>I</sup>-Catalyzed Hydration of Alkynes (C) 4563
- Hydrides and Iodides of Gold (H) 2269
- Icosahedral W@Au<sub>12</sub>: A Predicted Closed-Shell Species, Stabilized by Auophilic Attraction and Relativity and in Accord with the 18-Electron Rule (C) 2174
- Naked-Eye Sensitive Detection of Immunoglobulin G by Enlargement of Au Nanoparticles In Vitro (C) 2176
- Relativity, Gold, Closed-Shell Interactions, and CsAu·NH<sub>3</sub> (M) 3573

## G proteins

- Structure–Function Analysis of Uroterisin II and Its Use in the Construction of a Ligand–Receptor Working Model (C) 2940

## Green chemistry

- A Three-Phase Emulsion/Solid-Heterogenization Method for Transport and Catalysis (C) 4132

- Electronic and Steric Effects on Catalysts for CO<sub>2</sub>/Epoxide Polymerization: Subtle Modifications Resulting in Superior Activities (C) 2599
- Rhenium(VII) Oxo Complexes as Extremely Active Catalysts in the Dehydration of Primary Amides and Aldoximes to Nitriles (C) 2983
- 10 Years after Rio—Concepts on the Contribution of Chemistry to a Sustainable Development (R) 414
- Grignard reaction
- BuMgNiPr<sub>2</sub>: A New Base for Stoichiometric, Position-Selective Deprotonation of Cyclopropane Carboxamides and Other Weak CH Acids (C) 2169
- General Preparation of Functionalized *o*-Nitroarylmagnesium Halides through an Iodine–Magnesium Exchange (C) 1610
- Highly Enantioselective Desymmetrization of Anhydrides by Carbon Nucleophiles: Reactions of Grignard Reagents in the Presence of (–)-Sparteine (C) 1057
- Iron-Catalyzed Cross-Coupling Reactions of Alkyl-Grignard Reagents with Aryl Chlorides, Tosylates, and Triflates (C) 609
- Palladium-Catalyzed Coupling of Alkyl Chlorides and Grignard Reagents (C) 4056



## Hafnium

- Nanotubes of Group 4 Metal Disulfides (C) 3451
- The HfCl<sub>4</sub>-Mediated Diels–Alder Reaction of Furan (C) 4079

## Halides

- A One-Dimensional BaI<sub>2</sub> Chain with Five- and Six-Coordination, Formed within a Single-Walled Carbon Nanotube (C) 1156
- Sterically Hindered Lithium Dialkylcuprates for the Generation of Highly Functionalized Mixed Cuprates through a Halogen–Copper Exchange (C) 3263

## Halogenation

- Structure and Synthesis of the Natural Heptachloro-1'-methyl-1,2'-bipyrrrole (Q1) (C) 1740

## Halogen–metal exchange

- General Preparation of Functionalized *o*-Nitroarylmagnesium Halides through an Iodine–Magnesium Exchange (C) 1610
- Preparation of New Functionalized Cyclopropylmagnesium Reagents (C) 351

## Halogens

- Halide Effects in Transition Metal Catalysis (R) 26
- Hydrides and Iodides of Gold (H) 2269
- Hammerhead ribozyme
- Reporter Ribozymes for Real-Time Analysis of Domain-Specific Interactions in Biomolecules: HIV-1 Reverse Transcriptase and the Primer–Template Complex (C) 4263

## H/D exchange

- Real-time Observation of the H/D Exchange Reaction between Ethylene and Hydrogen on Pt(111) (C) 146

## Heck reaction

- Pd-Catalyzed Decarbonylative Olefination of Aryl Esters: Towards a Waste-Free Heck Reaction (C) 1237
- Ruthenium-Catalyzed Oxidative Heck Reactions (C) 169
- Total Synthesis of (–)-Strychnine (C) 1934
- Total Synthesis of (±)-Wortmannin (C) 4680

## Helical structures

- A Helical Array of Pendant Fullerenes on an Optically Active Polyphenylacetylene (C) 3602
- Assembly of a Nanoscale Chiral Ball through Supramolecular Aggregation of Bowl-Shaped Triangular Helicates (C) 4244
- Cation-Promoted Hierarchical Formation of Supramolecular Assemblies of Self-Organized Helical Molecular Components (C) 1195
- Chirality Induction through the Reversible Catenation of Coordination Rings (C) 3269
- De Novo Protein Surface Design: Use of Cation– $\pi$  Interactions to Enhance Binding between an  $\alpha$ -Helical Peptide and a Cationic Molecule in 50% Aqueous Solution (C) 117
- Electric-Field-Modulated Circular-Difference Effects in Second-Harmonic Generation from a Chiral Liquid Crystal (C) 3882
- Enantiopure Double-Helical Alkynyl Cyclophanes (C) 171
- Helical Chiral Polymers without Additional Stereogenic Units: A New Class of Ligands in Asymmetric Catalysis (C) 1614
- Helical Sense Bias Induced by Point Chirality in Cage Compounds (C) 1205
- Hydrogen-Bonded Helices in Crystals with Prescribed Organization (C) 1724
- Observation of Uniaxial Negative Thermal Expansion in an Organic Crystal (C) 754
- Per(6-amino-2-*O*-carboxymethyl-6-deoxy-3-*O*-methyl)- $\alpha$ -cyclodextrin: Helical Self-Assembly of a Polyionic Amino Acid into Nanotubes (C) 1715
- Preparation of Resolved Fourfold Symmetric Amphiphilic Helices Using Chiral Metallocrown Building Blocks (C) 4667
- Remodeling of gp41–C34 Peptide Leads to Highly Effective Inhibitors of the Fusion of HIV-1 with Target Cells (C) 2937
- *sp* Carbon Chains Surrounded by *sp*<sup>3</sup> Carbon Double Helices: A Class of Molecules that are Accessible by Self-Assembly and Models for “Insulated” Molecular-Scale Devices (C) 1871
- Synthesis and Stereoselective Self-Assembly of Double- and Triple-Stranded Helicates (C) 2086
- Template-Directed Synthesis of Helical Phenanthroline Cyclophanes (C) 4520
- Template Effects, Asymmetry, and Twinning in Helical Inclusion Compounds (C) 965
- The Consequences of Chirality in Crowded Arenes—Macromolecular Helicity, Hierarchical Ordering, and Directed Assembly (C) 2828
- Total Syntheses and Structures of Angular [6]- and [7]Phenylene: The First Helical Phenylenes (Heliphenes) (C) 3223
- Total Syntheses of Angular [7]-, [8]-, and [9]Phenylene by Triple Cobalt-Catalyzed



- Cycloisomerization: Remarkably Flexible Heliphenes (C) 3227
- Hemicarcerands
- Rate Acceleration through Dispersion Interactions: Effect of a Hemicarcerand on the Transition State of Inner Phase Decompositions of Diazirines (C) 96
- Hemilabile ligands
- Drastic Luminescence Response to Carbon Monoxide from a Ru<sup>II</sup> Complex Containing a Hemilabile Phosphane Pyrene Ether (C) 1898
- Heparin
- Adhesive and Anti-Adhesive Agents in Giant Vesicles (C) 1350
  - Heparin–Protein Interactions (R) 390
- Heterocycles
- A Concise Formal Total Synthesis of (±)-Strychnine by Using a Transannular Inverse-Electron-Demand Diels–Alder Reaction of a [3](1,3)Indolo[3](3,6)pyridazinophane (C) 3261
  - A Five-Component Synthesis of Hexa-substituted Benzene (C) 4291
  - An Efficient One-Pot Enantio- and Diastereoselective Synthesis of Heterocycles (C) 4693
  - A Route to 5-Substituted Dibenzofurans by Anionic Cycloaromatization of 2-(6-substituted 3-hexen-1,5-diynyl)phenyl *tert*-butyldimethyl ethers and Related Molecules (C) 4077
  - 1,2-Azaborolyls, Isoelectronic Analogues of the Ubiquitous Cyclopentadienyl Ligand: Synthesis of *B*-Heteroatom-Substituted 1,2-Azaborolyl Complexes and an Assessment of Their Electronic Features (C) 174
  - Cation-Promoted Hierarchical Formation of Supramolecular Assemblies of Self-Organized Helical Molecular Components (C) 1195
  - Click Chemistry In Situ: Acetylcholinesterase as a Reaction Vessel for the Selective Assembly of a Femtomolar Inhibitor from an Array of Building Blocks (C) 1053
  - Direct Electrochemical Aziridination of Alkenes under Metal-Free Conditions (H) 3586
  - Formation of a Nonaoxirane from A2E, a Lipofuscin Fluorophore related to Macular Degeneration, and Evidence of Singlet Oxygen Involvement (C) 814
  - Generation of Libraries of Pharmacophoric Structures with Increased Complexity and Diversity by Employing Polymorphic Scaffolds (C) 3677
  - Highly Enantioselective Cycloisomerization of Enynes Catalyzed by Rhodium for the Preparation of Functionalized Lactams (C) 4526
  - Highly Enantioselective Rh-Catalyzed Intramolecular Alder–Ene Reactions for the Syntheses of Chiral Tetrahydrofurans (C) 3457
  - Mechanisms of Sulfanyl (RS) Migrations: Synthesis of Heterocycles (R) 2462
  - Naphtho[1,8-*b,c*]phosphete and 1,2-Diphosphaacenaphthene from the Reaction of 1,8-Dilithionaphthalene with R<sub>2</sub>PCl<sub>2</sub> (C) 3897
  - N-Heterocyclic Carbenes: A New Concept in Organometallic Catalysis (R) 1290
  - Selective Isomerization of a Terminal Olefin Catalyzed by a Ruthenium Complex: The Synthesis of Indoles through Ring-Closing Metathesis (C) 4732
  - Synthesis and Structure of an Azatriscyclobutane and Its Precursor, a Novel Lithium Enamide Having a Tricyclic (LiNSiO)<sub>2</sub> Skeleton (C) 2568
  - Synthesis of Functionalized Pyrans by Domino Metathesis Reaction of Oxabicyclo Derivatives: Dramatic Effect of Remote Substituents on Reactivity and Selectivity (C) 4560
  - Traceless Solid-Phase Synthesis of 2-Aminothiazoles: Receptor Tyrosine Kinase Inhibitors with Dual Selectivity for Tie-2 and VEGFR-2 (C) 4757
  - Triazenes: A Versatile Tool in Organic Synthesis (R) 3338
  - Unexpected Carbonyl Mobility in Aminoketoses: The Key to Major Maillard Crosslinks (C) 801
- Hetero-Diels–Alder reaction
- Highly Enantioselective Inverse-Electron-Demand Hetero-Diels–Alder Reactions of α,β-Unsaturated Aldehydes (C) 3059
- Heterogeneous catalysis
- A New Catalyst for the Selective Oxidation of Butane and Propane (C) 858
  - A Patterned TiO<sub>2</sub>(Anatase)/TiO<sub>2</sub>(Rutile) Bilayer-Type Photocatalyst: Effect of the Anatase/Rutile Junction on the Photocatalytic Activity (C) 2811
  - Asymmetric Epoxidation of Allyl Alcohol on Organic–Inorganic Hybrid Chiral Catalysts Grafted onto the Surface of Silica and in the Mesopores of MCM-41 (C) 821
  - Catalytic Activity and Poisoning of Specific Sites on Supported Metal Nanoparticles (C) 2532
  - Characterization of C<sub>2</sub> (C<sub>2</sub>H<sub>2</sub>) Intermediates from Adsorption and Decomposition of Methane on Supported Metal Catalysts by in situ INS Vibrational Spectroscopy (C) 144
  - Direct Observation of Radicals in the Activation of Ziegler–Natta Catalysts (C) 1517
  - Enantioselective Synthesis of Propargylamines by Copper-Catalyzed Addition of Alkynes to Enamines (C) 2535
  - Enhanced Product Selectivity in Continuous N-Methylation of Amino Alcohols over Solid Acid–Base Catalysts with Supercritical Methanol (C) 3476
  - Heterogeneous Pd-Catalyzed Asymmetric Allylic Substitution Using Resin-Supported Trost-Type Bisphosphane Ligands (C) 3852
  - Hexagonal and Cubic Thermally Stable Mesoporous Tin(IV) Phosphates with Acidic and Catalytic Properties (C) 1594
  - Lewis Acidity in Transition-Metal-Doped Microporous Aluminophosphates (C) 4677
  - Low-Temperature Destruction of Chlorinated Hydrocarbons over Lanthanide Oxide Based Catalysts (C) 4730
  - Observation of a H-Agostic Bond in a Highly Active Rhodium–Alkylidene Olefin Metathesis Heterogeneous Catalyst by Two-Dimensional Solid-State NMR Spectroscopy (C) 4535
  - Preparation and Characterization of a Model Bimetallic Catalyst: Co–Pd Nanoparticles Supported on Al<sub>2</sub>O<sub>3</sub> (C) 4073
  - Probing the Spatial Distribution and Morphology of Supported Nanoparticles Using Rutherford-Scattered Electron Imaging (C) 3804
  - Rapid Phase Fluxionality as the Determining Factor in Activity and Selectivity of Highly Dispersed, Rh/Al<sub>2</sub>O<sub>3</sub> in deNO<sub>x</sub> Catalysis (C) 2587
  - Real-time Observation of the H/D Exchange Reaction between Ethylene and Hydrogen on Pt(111) (C) 146
  - Real-Time Photoacoustic Parallel Detection of Products from Catalyst Libraries (C) 2966
  - Solid-State NMR Studies of MCM-41 Supported with a Highly Catalytically Active Cluster (C) 4726
  - Supported Ruthenium Catalyst for the Heterogeneous Oxidation of Alcohols with Molecular Oxygen (C) 4538
  - The Catalytic Use of Onion-Like Carbon Materials for Styrene Synthesis by Oxidative Dehydrogenation of Ethylbenzene (C) 1885
  - Understanding Zeolite Catalysis: Inverse Shape Selectivity Revised (C) 2499
- High-pressure chemistry
- Diastereoselective Asymmetric Nitro-Aldol Reaction of α-Amino Aldehydes under High Pressure without Catalyst (C) 1031
  - High-Pressure Syntheses of Novel Binary Nitrogen Compounds of Main Group Elements (M) 77
  - Spinel Sialons (C) 789
  - Sr<sub>4</sub>N<sub>3</sub>: A Hitherto Missing Member in the Nitrogen Pressure Reaction Series Sr<sub>2</sub>N → Sr<sub>4</sub>N<sub>3</sub> → SrN → SrN<sub>2</sub> (C) 2288
  - Synthesis and Characterization of Ag<sub>2</sub>–NiO<sub>2</sub> Showing an Uncommon Charge Distribution (C) 643
- High-spin molecules
- 2,3,5,6-Tetrafluorophenylnitren-4-yl: A Quartet-Ground-State Nitrene Radical (C) 2742
- High-temperature chemistry
- Gallium Flux Synthesis of Tb<sub>3–x</sub>C<sub>2</sub>Si<sub>8</sub>(B<sub>12</sub>)<sub>3</sub>: A Novel Quaternary Boron-Rich Phase Containing B<sub>12</sub> Icosahedra (C) 844
- High-throughput screening
- A Molecular Beacon for Quantitative Monitoring of the DNA Polymerase Reaction in Real-Time (C) 3620
  - A Straightforward NMR-Spectroscopy-Based Method for Rapid Library Screening (C) 3454
  - Fabrication of Carbohydrate Chips for Studying Protein–Carbohydrate Interactions (C) 3180
  - High-Throughput Multilevel Performance Screening of Advanced Materials (C) 4230
  - High-Throughput Screening of Enantioselective Catalysts by Immunoassay (C) 124
  - New Methods for the High-Throughput Screening of Enantioselective Catalysts and Biocatalysts (H) 1335
  - NMR Reporter Screening for the Detection of High-Affinity Ligands (C) 3420
  - Real-Time Photoacoustic Parallel Detection of Products from Catalyst Libraries (C) 2966
  - Screening and Selection Methods for Large-Scale Analysis of Protein Function (R) 4402
  - The Adrenaline Test for Enzymes (C) 1229
- History of chemistry
- An Omnivorous Curiosity, a Sense of Wonder, and a Taste for the Spectacular (E) 2059
  - Chemists and Biochemists during the National Socialist Era (R) 1310
  - Emil Fischer—Unequalled Classicist, Master of Organic Chemistry Research, and Inspired Trailblazer of Biological Chemistry (E) 4439

- The Torch of Erwin Chergaff and the Fire of Heraklitus Devour Their Children (E) 4213
- What Is a Discovery? Carbon Skeletal Rearrangements as Counter-Examples to the Rule of Minimal Structural Change (E) 4655
- History of science
- Chemical Transformations: Translation and the Periodic Table in Japan (E) 739
- Chemistry in Ancient Times: The Development of Blue and Purple Pigments (E) 2483
- The Scientific and Humane Legacy of Max Perutz (1914–2002) (E) 3155
- HIV
- Design of a Protein Surface Antagonist Based on  $\alpha$ -Helix Mimicry: Inhibition of gp41 Assembly and Viral Fusion (C) 278
- Remodeling of gp41-C34 Peptide Leads to Highly Effective Inhibitors of the Fusion of HIV-1 with Target Cells (C) 2937
- Hole transport
- DNA-Mediated Electron Transfer across Synthetic T:A·T Triplex Structures (C) 3485
- Homogeneous catalysis
- A Defined N-Heterocyclic Carbene Complex for the Palladium-Catalyzed Suzuki Cross-Coupling of Aryl Chlorides at Ambient Temperatures (C) 1363
- A Highly Efficient Catalyst for the Telomerization of 1,3-Dienes with Alcohols: First Synthesis of a Monocarbene-palladium(o)–Olefin Complex (C) 986
- A Highly Efficient Ruthenium Catalyst for Metathesis Reactions (C) 4038
- A Method for Palladium-Catalyzed Cross-Couplings of Simple Alkyl Chlorides: Suzuki Reactions Catalyzed by  $[\text{Pd}_2(\text{dba})_3]/\text{PCy}_3$  (C) 1945
- Aminocyclopentadienyl Ruthenium Chloride: Catalytic Racemization and Dynamic Kinetic Resolution of Alcohols at Ambient Temperature (C) 2373
- An Efficient One-Pot Enantio- and Diastereoselective Synthesis of Heterocycles (C) 4693
- A New Approach to Osmium-Catalyzed Asymmetric Dihydroxylation and Aminohydroxylation of Olefins (C) 472
- A New Generation of Air Stable, Highly Active Pd Complexes for C–C and C–N Coupling Reactions with Aryl Chlorides (C) 3668
- A New Highly Efficient Ruthenium Metathesis Catalyst (C) 2403
- A New  $\text{Pd}^0$ – $\text{Cu}^{\text{I}}$  Bimetallic Catalyst for the Synthesis of Indoles from Isocyanates and Allyl Carbonates (C) 3230
- A Novel Rhodium-Catalyzed Reduction–Oxidation Process: Reaction of 4-Alkynals with Phenol to Provide *cis*-4-Alkenoates (C) 1607
- Anti-Markovnikov Hydroamination of Terminal Alkynes (C) 2541
- A Practical and Highly Active Ruthenium-Based Catalyst that Effects the Cross Metathesis of Acrylonitrile (C) 4035
- A Practical Oligomeric  $[(\text{salen})\text{Co}]$  Catalyst for Asymmetric Epoxide Ring-Opening Reactions (C) 1374
- A Pyridylsilyl Group Expands the Scope of Catalytic Intermolecular Pauson–Khand Reactions (C) 3481
- Aqueous Catalytic Polymerization of Olefins (R) 544
- $[(\text{arene})\text{Rh}(\text{cod})]^+$  Complexes as Catalysts for  $[5+2]$  Cycloaddition Reactions (C) 4550
- A Self-Generating, Highly Active, and Recyclable Olefin–Metathesis Catalyst (C) 3835
- A Stepwise Huisgen Cycloaddition Process: Copper(I)-Catalyzed Regioselective “Ligation” of Azides and Terminal Alkynes (C) 2596
- A Stereospecific Ruthenium-Catalyzed Allylic Alkylation (C) 1059
- A Stoichiometric Aromatic C–H Borylation Catalyzed by Iridium(I)/2,2'-Bipyridine Complexes at Room Temperature (C) 3056
- Asymmetric, Catalytic Phenyl Transfer to Imines: Highly Enantioselective Synthesis of Diarylmethylamines (C) 3692
- Carbon–Carbon Double-Bond Formation from the Reaction of Organozinc Reagents with Aldehydes Catalyzed by a Nickel(II) Complex (C) 2757 Corrigendum: 4170
- Catalysts for the Living Insertion Polymerization of Alkenes: Access to New Polyolefin Architectures Using Ziegler–Natta Chemistry (R) 2236
- Catalytic Electronic Activation: Indirect “Wittig” Reaction of Alcohols (C) 4740
- Coordinative Unsaturation in Platinum(IV) Chemistry: From Proposed Reaction Intermediates to the First Structurally Characterized Complexes (H) 261
- Copper-Catalyzed Oxidative Heterocyclization by Atmospheric Oxygen (C) 2962
- Cyanamide Synthesis by the Palladium-Catalyzed Cleavage of a Si–N Bond (C) 1780
- Efficient and Selective Hydroacylation of 1-Alkynes with Aldehydes by a Chelation-Assisted Catalytic System (C) 2146
- Efficient Intramolecular Oxidative Amination of Olefins through Direct Dioxxygen-Coupled Palladium Catalysis (C) 164
- Electronic and Steric Effects on Catalysts for  $\text{CO}_2$ /Epoxide Polymerization: Subtle Modifications Resulting in Superior Activities (C) 2599
- Enantiopure  $\beta$ -Hydroxy Morpholine Amides from Terminal Epoxides by Carbonylation at 1 atm (C) 4703
- Formation of a Butadienenickel-Based Zwitterionic Single-Component Catalyst for Ethylene Polymerization: An Alternative Activation Pathway for Homogeneous Ziegler–Natta Catalysts of Late Transition Metals (C) 2543
- Halide Effects in Transition Metal Catalysis (R) 26
- Highly Efficient  $\text{Au}^{\text{I}}$ -Catalyzed Hydration of Alkynes (C) 4563
- Highly Enantioselective Cycloisomerization of Enynes Catalyzed by Rhodium for the Preparation of Functionalized Lactams (C) 4526
- Highly Enantioselective Rh-Catalyzed Intramolecular Alder–Ene Reactions for the Syntheses of Chiral Tetrahydrofurans (C) 3457
- Ionic Liquids Containing Anionic Selenium Species: Applications for the Oxidative Carbonylation of Aniline (C) 4300
- Ligand Rotation Distinguishes First- and Second-Generation Ruthenium Metathesis Catalysts (C) 4484
- Ligand Topology Tuning of Iron-Catalyzed Hydrocarbon Oxidations (C) 2179
- Monodentate Chiral Spiro Phosphoramidites: Efficient Ligands for Rhodium-Catalyzed Enantioselective Hydrogenation of Enamides (C) 2348
- New Catalyst Systems for the Catalytic Conversion of Methane into Methanol (C) 1745
- New Ferrocenyl Ligands with Broad Applications in Asymmetric Catalysis (C) 4708
- N-Heterocyclic Carbenes: A New Concept in Organometallic Catalysis (R) 1290
- “Oscillating” Metallocene Catalysts: How Do They Oscillate? (C) 505
- Palladium-Catalyzed  $\alpha$ -Arylation of Esters: Ideal New Methodology for Discovery Chemistry (H) 953
- Palladium-Catalyzed Coupling Reactions of Aryl Chlorides (R) 4176
- Palladium-Catalyzed Regio- and Diastereoselective Tandem Silastannylation/Allyl Addition of Allene Aldehydes and Allene Ketones: Synthesis of *cis* Cyclopentanols and Cyclohexanols (C) 343
- Pd-Catalyzed Decarbonylative Olefination of Aryl Esters: Towards a Waste-Free Heck Reaction (C) 1237
- Phosphorus Heterocycles: From Laboratory Curiosities to Ligands in Highly Efficient Catalysts (M) 563
- Rhenium(VII) Oxo Complexes as Extremely Active Catalysts in the Dehydration of Primary Amides and Aldoximes to Nitriles (C) 2983
- Simple Mixed Tricyclohexylphosphane–Triarylphosphite Complexes as Extremely High-Activity Catalysts for the Suzuki Coupling of Aryl Chlorides (C) 4120
- Structural Characterization of a Cationic Zirconocene Olefin Polymerization Catalyst with its Methylated Boralumoxane Counterion (C) 2166
- Synthesis and Structural Characterization of Organometallic Cyclynes: Novel Nanoscale, Carbon-Rich Topologies (C) 2378
- Synthesis and Structure of a Biconcave Cobalt Perfluorophthalocyanine and Its Catalysis of Novel Oxidative Carbon–Phosphorus Bonds Formation by Using Air (C) 750
- Synthesis of Metal Nanoparticles by Using Polyoxometalates as Photocatalysts and Stabilizers (C) 1911
- The Asymmetric Meerwein–Schmidt–Ponndorf–Verley Reduction of Prochiral Ketones with *i*PrOH Catalyzed by Al Catalysts (C) 1020
- Host–guest systems
- A Cucurbituril-Based Gyroscane: A New Supramolecular Form (C) 275
- A Dendritic Porphyrin Receptor for  $\text{C}_{60}$  Which Features a Profound Positive Allosteric Effect (C) 2790
- A Highly Specific  $\text{Ca}^{2+}$ -Ion Sensor: Signaling by Exciton Interaction in a Rigid–Flexible–Rigid Bichromophoric “H” Foldamer (C) 1766
- A Method To Identify and Screen Libraries of Guests That Complex to a Synthetic Host (C) 1004
- A Nanoporous Metal–Organic Framework Based on Bulky Phosphane Ligands (C) 764
- An Inverted Metal–Organic Framework with Compartmentalized Cavities Constructed by Using an Organic Bridging Unit Derived from the Solid State (C) 2070
- A Novel Concept of Reversing Neuromuscular Block: Chemical Encapsula-

- tion of Rocuronium Bromide by a Cyclodextrin-Based Synthetic Host (C) 265
- A Pillared-Layer Coordination Polymer Network Displaying Hysteretic Sorption:  $[\text{Cu}_2(\text{pzdc})_2(\text{dpyg})]_n$  (pzdc = Pyrazine-2,3-dicarboxylate; dpyg = 1,2-Di(4-pyridyl)glycol) (C) 133
  - A Springlike 3D-Coordination Network That Shrinks or Swells in a Crystal-to-Crystal Manner upon Guest Removal or Readsorption (C) 3392
  - Assembly of a Face-to-Face Tetranuclear Copper(I) Complex as a Host for an Anthracene Guest (C) 975
  - Assembly of a Truncated-Tetrahedral Chiral  $[\text{M}_{12}(\mu\text{-L})_{18}]^{24+}$  Cage (C) 2515
  - Attachment of Molecules at a Molecular Printboard by Multiple Host–Guest Interactions (C) 4467
  - Changeable Pore Sizes Allowing Effective and Specific Recognition by a Molybdenum-Oxide Based “Nanosponge”: En Route to Sphere-Surface and Nanoporous-Cluster Chemistry (C) 3604
  - Crystal-to-Crystal Sliding of 2D Coordination Layers Triggered by Guest Exchange (C) 3395
  - Cyclotrehalins: Cyclooligosaccharide Receptors Featuring a Hydrophobic Cavity (C) 3674 Corrigendum: 4370
  - De Novo Protein Surface Design: Use of Cation– $\pi$  Interactions to Enhance Binding between an  $\alpha$ -Helical Peptide and a Cationic Molecule in 50% Aqueous Solution (C) 117
  - Design of a Bilayer Structure in an Organic Inclusion Compound (C) 2181
  - Foldamers as Dynamic Receptors: Probing the Mechanism of Molecular Association between Helical Oligomers and Rodlike Ligands (C) 325
  - Functionalization of Single-Walled Carbon Nanotubes (M) 1853
  - Guest Preorganization: An Alternative “Bioinspired” Paradigm in Host–Guest Chemistry (C) 3259
  - Modular Building Blocks for Amino Acid Recognition in Peptides (C) 1751
  - Molecular Encapsulation (R) 1488
  - Molecular Encapsulation of Anions in a Neutral Receptor (C) 3423
  - “Molecular” Molecular Sieves: Lid-Free Decamethylcurbit[5]uril Absorbs and Desorbs Gases Selectively (C) 3020
  - Molecular Recognition of Carbohydrates through Directional Hydrogen Bonds by Urea-Appended Porphyrins in Organic Media (C) 2947
  - $\text{Mo}^{\text{V}}$ /Pyrophosphate Polyoxometalate: An Inorganic Cryptate (C) 2808
  - Mutually Induced Formation of Host–Guest Complexes between *p*-Sulfonated Calix[8]arene and Photolabile Cholinergic Ligands (C) 4706
  - Novel Synthetic Approach to Trinuclear 3d-4f Complexes: Specific Exchange of the Central Metal of a Trinuclear Zinc(II) Complex of a Tetraoxime Ligand with a Lanthanide(III) Ion (C) 4670
  - Of Molecular Gyroscopes, Matroshka Dolls, and Other “Nano”-Toys (H) 1513
  - Rate Acceleration through Dispersion Interactions: Effect of a Hemiacerand on the Transition State of Inner Phase Decompositions of Diazirines (C) 96
  - Self-Assembled Receptors for Enantioselective Recognition of Chiral Carboxylic Acids in a Highly Cooperative Manner (C) 1924
  - Self-Assembly of Trigonal-Prismatic Metallocages Encapsulating  $\text{BF}_4^-$  or  $\text{CuI}_3^{2-}$  as Anionic Guests: Structures and Mechanism of Formation (C) 3371
  - Solid-State and Solution Studies of a Tetrameric Capsule and Its Guests (C) 3793
  - Supramolecular Amphiphiles: Spontaneous Formation of Vesicles Triggered by Formation of a Charge-Transfer Complex in a Host (C) 4474 Corrigendum: 4612
  - Supramolecular Cluster Catalysis: Benzene Hydrogenation Catalyzed by a Cationic Triruthenium Cluster under Biphasic Conditions (C) 99
  - The First Water-Soluble Copper(I) Calix[6]arene Complex Presenting a Hydrophobic Ligand Binding Pocket: A Remarkable Model for Active Sites in Metalloenzymes (C) 1044
  - The Rational Design of Anion Host Compounds: An Exercise in Subtle Energetics (C) 104
  - Transfer of Chiral Information through Achiral Ion Recognition by a Novel Pseudocrown Ether with a Binaphthyl Moiety (C) 481
- Hybridization
- Fluorescent Deazaflavin–Oligonucleotide Probes for Selective Detection of DNA (C) 486
- Hydration
- Highly Efficient  $\text{Au}^{\text{I}}$ -Catalyzed Hydration of Alkynes (C) 4563
- Hydrazides
- Two-Step, Stereoselective Hydrazidoarylation of 1,3-Cyclopentadiene (C) 3375
- Hydrazones
- *N,N*-Dialkylhydrazones as the Imine Component in the Staudinger-Like  $[2 + 2]$  Cycloaddition to Benzyloxyketene (C) 831
- Hydride ligands
- Alkene C–H Activations at Dinuclear Complexes Promoted by Oxidation (C) 1208
  - Control of H–C( $\text{sp}^3$ ) Bond Cleavage Stoichiometry: Clean Reversible Alkyl Ligand Exchange with Alkane in  $[\text{LPt}(\text{Alk})(\text{H})_2]^+$  ( $\text{L} = [2.1.1]-(2,6)\text{-Pyridinophane}$ ) (C) 4102
  - Migration of a Phosphane Ligand between the Two Metal Centers in Diruthenium Hydrido Complexes (C) 2994
  - Rational Synthesis of Tetranuclear Ruthenium Polyhydride Clusters and Their Mixed-Ligand Analogues (C) 4085
- Hydrides
- Bismuthine  $\text{BiH}_3$ : Fact or Fiction? High-Resolution Infrared, Millimeter-Wave, and Ab Initio Studies (C) 2550
  - Characterization and Photochemistry of the Gallium and Indium Subhydrides  $\text{Ga}_2\text{H}_2$  and  $\text{In}_2\text{H}_2$  (C) 796
  - Copper-Catalyzed Reductive Alkylations of Enones: A Novel Transmetalation Protocol (C) 4580
  - Dinitrogen-Bond Cleavage in a Niobium Complex Supported by a Tridentate Aryloxide Ligand (C) 2792
  - Hydrides and Iodides of Gold (H) 2269
  - Rhodium Tetracarbonyl Hydride: The Elusive Metal Carbonyl Hydride (C) 3785
  - The Shortest Route to Chiral Ditosylmethylamine (C) 497
- Hydroacylation
- A New Method for the Synthesis of Cycloheptenones by  $\text{Rh}^{\text{I}}$ -Catalyzed Intramolecular Hydroacylation of 4,6-Dienals (C) 1218
  - Efficient and Selective Hydroacylation of 1-Alkynes with Aldehydes by a Chelation-Assisted Catalytic System (C) 2146
- Hydroamination
- Anti-Markovnikov Hydroamination of Terminal Alkynes (C) 2541
  - Exceptional Rate Enhancements and Improved Diastereoselectivities through Chelating Diamide Coordination in Intramolecular Alkene Hydroaminations Catalyzed by Yttrium and Neodymium Amido Complexes (C) 3645 Corrigendum: 4170
- Hydroarylation
- Two-Step, Stereoselective Hydrazidoarylation of 1,3-Cyclopentadiene (C) 3375
- Hydroboration
- Hydroboration of Coordinated Dinitrogen: A New Reaction for the  $\text{N}_2$  Ligand that Results in Its Functionalization and Cleavage (C) 3709
- Hydrocarbons
- Tetra- and Pentacyclopentacyclopentadiene—Two New Donor-Substituted Ligands for Metal Complexes (C) 786
  - The Supercritical Fluid Antisolvent Synthesis of  $\text{C}_{60}(\text{C}_2\text{H}_x)$  ( $x = 4$  or  $6$ ): The Crystal Structures of Two Materials Which Were Thought Unlikely to Exist (C) 3796
- Hydroformylation
- Phosphorus Heterocycles: From Laboratory Curiosities to Ligands in Highly Efficient Catalysis (M) 563
- Hydrogenases
- $[(\text{C}_6\text{H}_5)_2\text{Ni}(\mu\text{-S}_3')\text{Fe}(\text{CO})(\text{PMe}_3)_2]$ : A Dinuclear  $[\text{NiFe}]$  Complex Modeling the  $[(\text{RS})_2\text{Ni}(\mu\text{-SR})_2\text{Fe}(\text{CO})(\text{L})_2]$  Core of  $[\text{NiFe}]$  Hydrogenase Centers (C) 632
- Hydrogenation
- A Chiral 1,2-Bisphospholane Ligand with a Novel Structural Motif: Applications in Highly Enantioselective Rh-Catalyzed Hydrogenations (C) 1612
  - Functionalization of Elemental Phosphorus with  $[\text{Zr}(\eta^5\text{-C}_5\text{Me}_5)_2(\eta^5\text{-C}_5\text{H}_4\text{tBu})\text{H}_2]_2$  (C) 3463
  - Mono- and Bidentate Phosphinanes—New Chiral Ligands and Their Application in Catalytic Asymmetric Hydrogenations (C) 612
  - Monodentate Chiral Spiro Phosphoramidites: Efficient Ligands for Rhodium-Catalyzed Enantioselective Hydrogenation of Enamides (C) 2348
  - New Ferrocenyl Ligands with Broad Applications in Asymmetric Catalysis (C) 4708
  - Novel 1,4-Diphosphanes with Imidazolidin-2-one Backbones as Chiral Ligands: Highly Enantioselective Rh-Catalyzed Hydrogenation of Enamides (C) 847
  - Stereoselective Synthesis of Boc-Protected *cis* and *trans*-4-Trifluoromethylprolines by Asymmetric Hydrogenation Reactions (C) 1600
  - Supramolecular Cluster Catalysis: Benzene Hydrogenation Catalyzed by a Cationic Triruthenium Cluster under Biphasic Conditions (C) 99
  - The Inhibiting Influence of Aromatic Solvents on the Activity of Asymmetric Hydrogenations (C) 777
- Hydrogen bonding
- A Ring-in-Ring Complex (C) 270
- Hydrogen bonds
- A Crystalline  $\beta$ -Hairpin Peptide Nucleated by a Type I' Aib-D-Ala  $\beta$ -Turn: Evidence for Cross-Strand Aromatic Interactions (C) 3863

- A Pillared-Layer Coordination Polymer Network Displaying Hysteretic Sorption:  $[\text{Cu}_2(\text{pzdc})_2(\text{dpyg})]_n$  (pzdc = Pyrazine-2,3-dicarboxylate; dpyg = 1,2-Di(4-pyridyl)glycol) (C) 133
- A Straightforward Detection of Deprotonated Conformers of Malonic Acid by Solid-State  $^{13}\text{C}$  NMR Spectroscopy (C) 4743
- A Supramolecular Array of Fullerenes by Quadruple Hydrogen Bonding (C) 838
- A Thermotropic Mesophase Comprised of Closed Micellar Aggregates of the Normal Type (C) 628
- A 1,3,5-Triaxial Triaminocyclohexane: The Triamine Corresponding to Kemp's Triacid (C) 2581
- Characterization of a Planar Cyclic Form of Water Hexamer in an Organic Supramolecular Complex: An Unusual Self-Assembly of Bimesityl-3,3'-Dicarboxylic Acid (C) 3417
- C–H $\cdots$ O Hydrogen Bond Mediated Chain Reversal in a Peptide Containing a  $\gamma$ -Amino Acid Residue, Determined Directly from Powder X-ray Diffraction Data (C) 494
- Conformation-Dependent Ionization Energies of L-Phenylalanine (C) 4114
- 7-Deaza-2'-deoxyxanthosine Dihydrate Forms Water-Filled Nanotubes with C–H $\cdots$ O Hydrogen Bonds (C) 603
- Design of a Bilayer Structure in an Organic Inclusion Compound (C) 2181
- 4,4-Diphenyl-2,5-cyclohexadienone: Four Polymorphs and Nineteen Crystallographically Independent Molecular Conformations (C) 3848 Corrigendum: 4370
- Direct Observation of a Cytosine Analogue that Forms Five Hydrogen Bonds to Guanosine: Guanidino G-Clamp (C) 115
- First Evidence of Fast S–H $\cdots$ S Proton Transfer in a Transition Metal Complex (C) 2776
- Hydrogen-Bonded Helices in Crystals with Prescribed Organization (C) 1724
- Is Fluoride Bonded to Two Pd Acceptors Still Basic? Three  $\text{CH}_2\text{Cl}_2$  Molecules Encapsulating a  $\text{Pd}_2(\mu\text{-F})_2$  Square and New Implications for Catalysis (C) 4476
- Molecular Clips that Undergo Heterochiral Aggregation and Self-Sorting (C) 4028
- Molecular Recognition of Carbohydrates through Directional Hydrogen Bonds by Urea-Appended Porphyrins in Organic Media (C) 2947
- Noncovalent Chemistry of Nitrous Oxide: Interactions with Secondary *cis* Amides in Solution (C) 3854
- Novel Liquid-Crystalline Phases with Layerlike Organization (C) 4031
- Observation of Uniaxial Negative Thermal Expansion in an Organic Crystal (C) 754
- On the Interaction between N-Heterocyclic Carbenes and Organic Acids: Structural Authentication of the First N–H $\cdots$ C Hydrogen Bond and Remarkably Short C–H $\cdots$ O Interactions (C) 1432
- Orbital Interactions in Strong and Weak Hydrogen Bonds are Essential for DNA Replication (C) 2092
- Per(6-amino-2-O-carboxymethyl-6-deoxy-3-O-methyl)- $\alpha$ -cyclodextrin: Helical Self-Assembly of a Polyionic Amino Acid into Nanotubes (C) 1715
- Self-Assembled Receptors for Enantioselective Recognition of Chiral Carboxylic Acids in a Highly Cooperative Manner (C) 1924
- Self-Complementary Metal Complexes Containing a DNA Base Pair (C) 1047
- Solid-State and Solution Studies of a Tetrameric Capsule and Its Guests (C) 3793
- Supramolecular Templating of the Double-Cubane  $[\{\text{Cu}_3(\text{Hpz}^{\text{tBu}})_6(\mu_3\text{-Cl})(\mu_3\text{-OH})_3\}_2\text{Cu}]\text{Cl}_6$  (Hpz<sup>tBu</sup> = 5-*tert*-Butylpyrazole) (C) 756
- Synthesis of a Strapped Calix[4]pyrrole: Structure and Anion Binding Properties (C) 1757
- The Consequences of Chirality in Crowded Arenes—Macromolecular Helicity, Hierarchical Ordering, and Directed Assembly (C) 2828
- The Hydrogen Bond in the Solid State (R) 48
- Hydrogen halides
  - Singlet Delta Oxygen Production from a Gas–Solid Reaction (C) 3252
- Hydrogen peroxide
  - A Europium-Ion-Based Luminescent Sensing Probe for Hydrogen Peroxide (C) 4495
- Hydrogen transfer
  - Barrier Height Titration by Tunable Photoionization Combined with Chemical Monitoring: Unimolecular Keto/Enol Tautomerization of the Acetamide Cation Radical (C) 2748
  - Biocatalytic Asymmetric Hydrogen Transfer (C) 1014
  - Intramolecular 1,8-Hydrogen Abstraction Between Glucopyranose Units in a Disaccharide Model Promoted by Alkoxy Radicals (C) 856
- Hydrolases
  - Click Chemistry In Situ: Acetylcholinesterase as a Reaction Vessel for the Selective Assembly of a Femtomolar Inhibitor from an Array of Building Blocks (C) 1053
  - The Adrenaline Test for Enzymes (C) 1229
- Hydrolysis
  - Enantioselective Stereoinversion in the Kinetic Resolution of *rac*-*sec*-Alkyl Sulfate Esters by Hydrolysis with an Alkylsulfatase from *Rhodococcus ruber* DSM 44541 Furnishes Homochiral Products (C) 4052
  - Evidence for a Hydroxide Ion Catalyzed Pathway in Ester Hydrolysis in Supercritical Water (C) 623
  - Hydrolytic Activation of C–F Bonds in the Gas Phase by Intrinsically Unreactive Chromium Cations (C) 2538 Corrigendum: 3085
  - Mimicking Metallophosphatases: Revealing a Role for an OH Group with No Libido (C) 849
  - Observation of the Direct Products of Migratory Insertion in Aryl Palladium Carbene Complexes and Their Subsequent Hydrolysis (C) 2363
  - Remarkable Cooperativity between a  $\text{Zn}^{\text{II}}$  Ion and Guanidinium/Ammonium Groups in the Hydrolysis of RNA (C) 4013
  - X-Ray Structural Characterization of a Monoorganotin Acid (C) 1365
- Hydrophilicity
  - A Breathing Ionic Crystal Displaying Selective Binding of Small Alcohols and Nitriles:  $\text{K}_3[\text{Cr}_3\text{O}(\text{OOCH})_6(\text{H}_2\text{O})_3][\alpha\text{-SiW}_{12}\text{O}_{40}] \cdot 16\text{H}_2\text{O}$  (C) 2814
- Hydrophobic effect
  - Detection of Individual p53-Autoantibodies by Using Quenched Peptide-Based Molecular Probes (C) 4769
  - Enantiomeric Self-Recognition of a Facial Amphiphile Triggered by  $[\{\text{Pd}(\text{ONO}_2)(\text{en})\}_2]$  (C) 1905
  - Polymerase Recognition of Unnatural Base Pairs (C) 3841 Corrigendum: 4612
  - Super-Hydrophobic Surface of Aligned Polyacrylonitrile Nanofibers (C) 1221
- Hydrophobic interactions
  - Starched Carbon Nanotubes (C) 2508
- Hydrosilylation
  - Application of a New Family of P,N Ligands to the Highly Enantioselective Hydrosilylation of Aryl Alkyl and Dialkyl Ketones (C) 3892
  - Enantioselective Synthesis of and with Allenes (H) 2933
- Hydrostannation
  - *Ortho* Substituents Direct Regioselective Addition of Tributyltin Hydride to Unsymmetrical Diaryl (or Heteroaryl) Alkynes: An Efficient Route to Stannylated Stilbene Derivatives (C) 1578
- Hydrothermal synthesis
  - Novel, Acentric Metal–Organic Coordination Polymers from Hydrothermal Reactions Involving In Situ Ligand Synthesis (C) 3800
  - Organically Templated Mixed-Valent Iron Sulfates Possessing Kagomé and Other Types of Layered Networks (C) 4297
  - Synthesis and Characterization of Lanthanide Hydroxide Single-Crystal Nanowires (C) 4790
  - Unusual Uranyl Tellurites Containing  $[\text{Te}_2\text{O}_6]^{4-}$  Ions and Three-Dimensional Networks (C) 3426
- Hydrovinylation
  - Asymmetric Hydrovinylation: New Perspectives through Use of Modular Ligand Systems (H) 3775
- Hydroxylamines
  - Concise Enantioselective Synthesis of (+)-FR66979 and (+)-FR900482: Dimethylidioxirane-Mediated Construction of the Hydroxylamine Hemiketal (C) 4683
  - Facile Construction of *N*-Hydroxybenzazocine: Enantioselective Total Synthesis of (+)-FR900482 (C) 4686
  - First Synthesis of Optically Pure Propargylic *N*-Hydroxylamines by Direct, Highly Diastereoselective Addition of Terminal Alkynes to Nitrones (C) 3054
- Hydroxylation
  - Hydrogen Bonding Modulates the Selectivity of Enzymatic Oxidation by P450: Chameleon Oxidant Behavior by Compound I (C) 1947
  - Hydroxylation of N-Heterocycle Ligands Observed in Two Unusual Mixed-Valence  $\text{Cu}^{\text{I}}/\text{Cu}^{\text{II}}$  Complexes (C) 1029
  - Searching for New Reactivity (Nobel Lecture) (R) 2024
  - Selective  $\alpha$ -Carbon Hydroxylation of Glycine in Nickel(II)–Cyclotetrapeptide Complexes by Oxygen (C) 1879
- Hydroxy ligands
  - Monomeric Compounds Containing the *cis*- $[\text{V}(\text{=O})(\text{OH})]^{+}$  Core (C) 2797
- Hyperconjugation
  - Teaching the Right Reasons: Lessons from the Mistaken Origin of the Rotational Barrier in Ethane (E) 3579
- Hypercoordinate carbon
  - Planar Hypercoordinate Carbons Joined: Wheel-Shaped Molecules with C–C Axles (C) 4082

## Hypervalent compounds

- A Method for Determining the Difference in Relative Apicophilicity of Carbon-Containing Substituents of 10-P-5 Phosphoranes (C) 4718
- $\text{HIO}_3$  and  $\text{I}_2\text{O}_5$ : Mild and Selective Alternative Reagents to IBX for the Dehydrogenation of Aldehydes and Ketones (C) 1386
- IBX-Mediated Oxidation of Primary Alcohols and Aldehydes To Form Carboxylic Acids (C) 4059
- Modulation of the Reactivity Profile of IBX by Ligand Complexation: Ambient Temperature Dehydrogenation of Aldehydes and Ketones to  $\alpha,\beta$ -Unsaturated Carbonyl Compounds (C) 993
- Oxidation of Silyl Enol Ethers by Using IBX and IBX·*N*-Oxide Complexes: A Mild and Selective Reaction for the Synthesis of Enones (C) 996
- Silicon–Enamine Complexes: Pentacoordinate Silicon Compounds (C) 1732



## Icosahedral symmetry

- Icosahedral  $\text{WAu}_{12}$ : A Predicted Closed-Shell Species, Stabilized by Auophilic Attraction and Relativity and in Accord with the 18-Electron Rule (C) 2174

## Imaging agents

- An Azulene Dimer as a Near-Infrared Quencher (C) 3659
- Compartmentalization of a Gadolinium Complex in the Apoferritin Cavity: A Route To Obtain High Relaxivity Contrast Agents for Magnetic Resonance Imaging (C) 1017
- Novel pH-Reporter MRI Contrast Agents (C) 4334
- The Amide Protons of an Ytterbium(III) dota Tetraamide Complex Act as Efficient Antennae for Transfer of Magnetization to Bulk Water (C) 1919

## Imidazoles

- $[\text{Ir}_4(\text{CO})_{12}]$ -Catalyzed Coupling Reaction of Imidazoles with Aldehydes in the Presence of a Hydrosilane to Give 2-Substituted Imidazoles (C) 2779

## Imines

- Asymmetric, Catalytic Phenyl Transfer to Imines: Highly Enantioselective Synthesis of Diarylmethylamines (C) 3692
- Insertion and Cycloaddition Reactivity of a Transition-Metal *N*-Metalloimine (C) 3858
- Methyleneimine  $\text{CH}_2=\text{NH}$  as a Unidentate Ligand in Rhenium Complexes (C) 2192
- $[\text{Os}^{\text{III}}(\text{tpy})(\text{Cl})(\text{NCCH}_3)(\text{NSAr})]$ : Reversible Reduction of Acetonitrile by  $\text{Os}^{\text{III}}$ –Sulfilimido Complexes (C) 3870
- The Ability of the  $\alpha,\alpha'$ -Diiminopyridine Ligand System to Accept Negative Charge: Isolation of Paramagnetic and Diamagnetic Trianions (C) 3873

## Immobilization

- A Mass Spectrometry Based Direct-Binding Assay for Screening Binding Partners of Proteins (C) 646
- The First Polymer-Supported and Recyclable Chiral Catalyst for Enantioselective Olefin Metathesis (C) 589

- Titanium Silsesquioxanes Grafted on Three-Dimensionally Netted Polysiloxanes: Catalytic Ensembles for Epoxidation of Alkenes with Aqueous Hydrogen Peroxide (C) 637

## Immunoassays

- Detection of Individual p53-Autoantibodies by Using Quenched Peptide-Based Molecular Probes (C) 4769

## Immunochemistry

- Active Immunization with a Glycolipid Transition State Analogue Protects against Endotoxic Shock (C) 4241

## Immunoglobulins

- Naked-Eye Sensitive Detection of Immunoglobulin G by Enlargement of Au Nanoparticles In Vitro (C) 2176

## Impedance spectroscopy

- Amplified DNA Detection by Electrogenerated Biochemiluminescence and by the Catalyzed Precipitation of an Insoluble Product on Electrodes in the Presence of the Doxorubicin Intercalator (C) 3398

## Imprinting

- Formation of a Class of Enzyme Inhibitors (Drugs), Including a Chiral Compound, by Using Imprinted Polymers or Biomolecules as Molecular-Scale Reaction Vessels (C) 4459
- Nano- and Micropatterning by Organic–Inorganic Templating of Hierarchical Self-Assembled Structures (H) 3359

## Inclusion compounds

- An Inclusion Complex with  $[\text{Gd}(\text{dmf})_8]^{3+}$  Ions Encapsulated in Pockets of an Anionic Array of  $[\{\text{Cu}_6(\text{CN})_9\}]_\infty^{3-}$  Units; A Cyanide-Bridged Cu–Gd Layer Structure (C) 3609
- A Pillared-Layer Coordination Polymer Network Displaying Hysteretic Sorption:  $[\text{Cu}_2(\text{pzdc})_2(\text{dpyg})]_n$  (pzdc = Pyrazine-2,3-dicarboxylate; dpyg = 1,2-Di(4-pyridyl)glycol) (C) 133
- Design of a Bilayer Structure in an Organic Inclusion Compound (C) 2181
- Hydrogen-Bonded Helices in Crystals with Prescribed Organization (C) 1724
- “Molecular” Molecular Sieves: Lid-Free Decamethylcucurbit[5]uril Absorbs and Desorbs Gases Selectively (C) 3020
- Mutually Induced Formation of Host–Guest Complexes between *p*-Sulfonated Calix[8]arene and Photolabile Cholinergic Ligands (C) 4706
- Remarkable Boosting of the Binding of Ion-Paired Organic Salts by Binary Host Systems (C) 2122
- Template Effects, Asymmetry, and Twinning in Helical Inclusion Compounds (C) 965

## Indigo

- Akashins A, B, and C: Novel Chlorinated Indigoglycosides from *Streptomyces* sp. GW 48/1497 (C) 597

## Indium

- A 3D Open–Framework Indium Telluride and Its Selenide and Sulfide Analogues (C) 1959
- An Axially Bridged Indium Phthalocyanine Dimer with an In–In Bond (C) 3239
- Characterization and Photochemistry of the Gallium and Indium Subhydrides  $\text{Ga}_2\text{H}_2$  and  $\text{In}_2\text{H}_2$  (C) 796
- Highly Efficient Catalytic Synthesis of Substituted Allenes Using Indium (C) 3901
- $[\text{Pd}_3(\text{InCp}^*)_4(\mu_2\text{-InCp}^*)_4]$ : Three Linearly Arranged Palladium Atoms Wrapped

into a Fluxional Shell of Eight  $\text{InCp}^*$  Ligands (C) 4761

## Indoles

- A New  $\text{Pd}^0$ – $\text{Cu}^{\text{I}}$  Bimetallic Catalyst for the Synthesis of Indoles from Isocyanates and Allyl Carbonates (C) 3230

## Indolizidines

- A Short Synthesis of  $(\pm)$ -13-Deoxyseratine (C) 1783

## Inhibitors

- Click Chemistry In Situ: Acetylcholinesterase as a Reaction Vessel for the Selective Assembly of a Femtomolar Inhibitor from an Array of Building Blocks (C) 1053
- Combinatorial and Rational Strategies To Develop Nonpeptidic  $\alpha\beta 7$ -Integrin Antagonists from Cyclic Peptides (C) 3007
- Direct Screening for Phosphatase Activity by Turnover-Based Capture of Protein Catalysts (C) 775 Corrigendum: 1460
- Distal Cu Ion Protects Synthetic Heme/Cu Analogues of Cytochrome Oxidase against Inhibition by CO and Cyanide (C) 4139
- Formation of a Class of Enzyme Inhibitors (Drugs), Including a Chiral Compound, by Using Imprinted Polymers or Biomolecules as Molecular-Scale Reaction Vessels (C) 4459
- NMR Reporter Screening for the Detection of High-Affinity Ligands (C) 3420
- Ones, Thiones, and *N*-Oxides: An Exercise in Imidazole Chemistry (C) 2290
- Substrate Distortion by a  $\beta$ -Mannanase: Snapshots of the Michaelis and Covalent-Intermediate Complexes Suggest a  $B_{2,5}$  Conformation for the Transition State (C) 2824
- Synthesis and Evaluation of Transition-State Analogue Inhibitors of  $\alpha$ -1,3-Fucosyltransferase (C) 3041
- Synthesis of the Protein Phosphatase 2A Inhibitor (4S,5S,6S,10S,11S,12S)-Cytostatin (C) 1748
- The Core Structure of TMC-95A Is a Promising Lead for Reversible Proteasome Inhibition (C) 780
- The Total Synthesis of Proteasome Inhibitors TMC-95A and TMC-95B: Discovery of a New Method To Generate *cis*-Propenyl Amides (C) 512
- Traceless Solid-Phase Synthesis of 2-Aminothiazoles: Receptor Tyrosine Kinase Inhibitors with Dual Selectivity for Tie-2 and VEGFR-2 (C) 4757

## Innovations

- 10 Years after Rio—Concepts on the Contribution of Chemistry to a Sustainable Development (R) 414

## Insertion

- Catalytic Enantioselective Synthesis of  $\beta^2$ -Amino Acids (C) 2197
- Characterization and Photochemistry of the Silane–Aluminum Complex  $\text{Al}\cdot\text{SiH}_4$  and Its Photoproducts  $\text{HAlSiH}_3$  and  $\text{AlSiH}_3$  in a Solid Argon Matrix (C) 1538
- Functionalization of Elemental Phosphorus with  $[\text{Zr}(\eta^5\text{-C}_5\text{Me}_5)(\eta^5\text{-C}_5\text{H}_4\text{Bu})\text{H}_2]_2$  (C) 3463
- Generation of Polyunsaturated Cumulene Chains by Unprecedented Insertions of the Ynamine  $\text{MeC}\equiv\text{CNET}_2$  in Ruthenium(II) Allenylidene Complexes (C) 3439
- Insertion and Cycloaddition Reactivity of a Transition-Metal *N*-Metalloimine (C) 3858

- Observation of the Direct Products of Migratory Insertion in Aryl Palladium Carbene Complexes and Their Subsequent Hydrolysis (C) 2363
- Pd<sup>II</sup>-Catalyzed Cyclization of Alkynes Containing Aldehyde, Ketone, or Nitrile Groups Initiated by the Acetoxypalladation of Alkynes (C) 4343
- Synthesis and Structure of an Azatrisilacyclobutane and Its Precursor, a Novel Lithium Enamide Having a Tricyclic (Li<sub>2</sub>SiO)<sub>2</sub> Skeleton (C) 2568
- Unusual P=C Bond Cleavage by Double Dichlorosilylene Transfer from Trichlorosilyltrimethylgermane to *P*-Phosphanyl Phosphaalkenes (C) 3829
- Insulators**
  - A *trans*-Platinum(II) Complex as a Single-Molecule Insulator (C) 1183
- Integrins**
  - Combinatorial and Rational Strategies To Develop Nonpeptidic α4β7-Integrin Antagonists from Cyclic Peptides (C) 3007
- Intercalations**
  - Amplified DNA Detection by Electrogenerated Biochemiluminescence and by the Catalyzed Precipitation of an Insoluble Product on Electrodes in the Presence of the Doxorubicin Intercalator (C) 3398
  - Au-Nanoparticle Nanowires Based on DNA and Polylysine Templates (C) 2323
  - Sr<sub>4</sub>N<sub>3</sub>: A Hitherto Missing Member in the Nitrogen Pressure Reaction Series Sr<sub>3</sub>N → Sr<sub>4</sub>N<sub>3</sub> → SrN → SrN<sub>2</sub> (C) 2288
  - The Supercritical Fluid Antisolvent Synthesis of C<sub>60</sub>(C<sub>2</sub>H<sub>4</sub>)<sub>x</sub> (x = 4 or 6); The Crystal Structures of Two Materials Which Were Thought Unlikely to Exist (C) 3796
- Interfaces**
  - Probing Fast Facilitated Ion Transfer across an Externally Polarized Liquid–Liquid Interface by Scanning Electrochemical Microscopy (C) 3445
- Intermediates**
  - Characterization of Reactive Intermediates by Diffusion-Ordered NMR Spectroscopy: A Snapshot of the Reaction of <sup>13</sup>CO<sub>2</sub> with [Cp<sub>2</sub>Zr(Cl)H] (C) 107
- Intermetallic phases**
  - Chemically Tuning between Ferromagnetism and Antiferromagnetism by Combining Theory and Synthesis in Iron/Manganese Rhodium Borides (C) 2528
  - Wet Chemistry Synthesis of β-Nickel Aluminide NiAl (C) 599
- Interpenetration**
  - Infinite Secondary Building Units and Forbidden Catenation in Metal–Organic Frameworks (C) 284
- Iodination**
  - Activation of Alkanes upon Reaction with PhI(OAc)<sub>2</sub>–I<sub>2</sub> (C) 2556
- Iodine**
  - Activation of Alkanes upon Reaction with PhI(OAc)<sub>2</sub>–I<sub>2</sub> (C) 2556
  - General Preparation of Functionalized *o*-Nitroarylmagnesium Halides through an Iodine–Magnesium Exchange (C) 1610
  - HIO<sub>3</sub> and I<sub>2</sub>O<sub>5</sub>: Mild and Selective Alternative Reagents to IBX for the Dehydrogenation of Aldehydes and Ketones (C) 1386
  - IBX-Mediated Oxidation of Primary Alcohols and Aldehydes To Form Carboxylic Acids (C) 4059
- Modulation of the Reactivity Profile of IBX by Ligand Complexation: Ambient Temperature Dehydrogenation of Aldehydes and Ketones to α,β-Unsaturated Carbonyl Compounds (C) 993
- Oxidation of Silyl Enol Ethers by Using IBX and IBX·*N*-Oxide Complexes: A Mild and Selective Reaction for the Synthesis of Enones (C) 996
- Supramolecular-Wire Confinement of I<sub>2</sub> Molecules in Channels of the Organic Zeolite Tris(*o*-phenylenedioxy)cyclotriphosphazene (C) 2281
- Tetraiodobutatriene: A New Cumulenenic Carbon Iodide (C) 3011
- Ion channels**
  - Cation Control in Functional Helical Programming: Structures of a D,L-Peptide Ion Channel (C) 4062
  - Fluorescence Spectroscopic Quantification of the Release of Cyclic Nucleotides from Photocleavable [Bis(carboxymethoxy)coumarin-4-yl]methyl Esters inside Cells (C) 3625
- Ionic liquids**
  - Highly Selective Transport of Organic Compounds by Using Supported Liquid Membranes Based on Ionic Liquids (C) 2771
  - Ionic Liquids Containing Anionic Selenium Species: Applications for the Oxidative Carbonylation of Aniline (C) 4300
- Ionization potentials**
  - Conformation-Dependent Ionization Energies of L-Phenylalanine (C) 4114
- Ionophores**
  - Trifluoroacetophenone Derivatives as Amino Acid Selective Ionophores for the Potentiometric Determination of Phenylalanine (C) 3005
- Ion-pair recognition**
  - Remarkable Boosting of the Binding of Ion-Paired Organic Salts by Binary Host Systems (C) 2122
- Ion pairs**
  - Ion-Pair-Mediated Asymmetric Synthesis of a Configurationally Stable Mononuclear Tris(diimine)–Iron(II) Complex (C) 2317
  - Molecular Encapsulation of Anions in a Neutral Receptor (C) 3423
- Iridium**
  - Alkene C–H Activations at Dinuclear Complexes Promoted by Oxidation (C) 1208
  - A Stoichiometric Aromatic C–H Borylation Catalyzed by Iridium(II)/2,2'-Bipyridine Complexes at Room Temperature (C) 3056
  - Catalytic Electronic Activation: Indirect “Wittig” Reaction of Alcohols (C) 4740
  - Dioxygen Activation by a Mononuclear Ir<sup>III</sup>–Ethene Complex (C) 2135
  - [Ir<sub>4</sub>(CO)<sub>12</sub>]-Catalyzed Coupling Reaction of Imidazoles with Aldehydes in the Presence of a Hydrosilane to Give 2-Substituted Imidazoles (C) 2779
- Iron**
  - A Diferric Peroxo Complex with an Unprecedented Spin Configuration: An *S* = 2 System Arising from an *S* = 5/2, 1/2 Pair (C) 617
  - A New Mononuclear Iron(III) Complex Containing a Peroxocarbonate Ligand (C) 1202
  - A Reaction Pathway of [Fe(CO)<sub>5</sub>] with Alkynes via Ferrabicyclobutenones (C) 2393
  - A Reactive Intermediate in the Synthesis of Iron Arsenates: Synthesis of the First One-Dimensional Iron Arsenate Oxalate and Its Transformation into Two- and Three-Dimensional Iron Arsenates (C) 1224
  - A Trigonal-Bipyramidal Ferric Aqua Complex with a Sterically Hindered Salen Ligand as a Model for the Active Site of Protocatechuate 3,4-Dioxygenase (C) 3638
  - A Unique Bismuth–Iron Chain Polymer Containing the ...-Bi-Fe-... Link: Formation and Structure of [nBuBiFe(CO)<sub>4</sub>]<sub>∞</sub> (C) 2384
  - Bis(μ-oxo)dimetal “Diamond” Cores in Copper and Iron Complexes Relevant to Biocatalysis (R) 1114 Corrigendum: 1821
  - Chemical Strategies for Iron Acquisition in Plants (M) 2259 Corrigendum: 4610
  - [(C<sub>6</sub>H<sub>4</sub>S<sub>2</sub>)Ni(μ-S<sub>3</sub>)Fe(CO)(PMe<sub>3</sub>)<sub>2</sub>]: A Dinuclear [NiFe] Complex Modeling the [(RS)<sub>2</sub>Ni(μ-SR)<sub>2</sub>Fe(CO)(L)<sub>2</sub>] Core of [NiFe] Hydrogenase Centers (C) 632
  - Distal Cu Ion Protects Synthetic Heme/Cu Analogues of Cytochrome Oxidase against Inhibition by CO and Cyanide (C) 4139
  - [{Fe(OMe)<sub>2</sub>[O<sub>2</sub>CC(OH)Ph<sub>2</sub>]}]<sub>12</sub>: Synthesis and Characterization of a New Member in the Family of Molecular Ferric Wheels with the Carboxylatobis(alkoxo) Bridging Unit (C) 2386
  - Ion-Pair-Mediated Asymmetric Synthesis of a Configurationally Stable Mononuclear Tris(diimine)–Iron(II) Complex (C) 2317
  - Iron-Catalyzed Cross-Coupling Reactions of Alkyl-Grignard Reagents with Aryl Chlorides, Tosylates, and Triflates (C) 609
  - Iron-Catalyzed Polyethylene Chain Growth on Zinc: Linear α-Olefins with a Poisson Distribution (C) 489
  - Ligand Topology Tuning of Iron-Catalyzed Hydrocarbon Oxidations (C) 2179
  - Octametallic and Hexadecametallic Ferric Wheels (C) 4318
  - Organically Templated Mixed-Valent Iron Sulfates Possessing Kagomé and Other Types of Layered Networks (C) 4297
  - Pentaphosphaferrocene as a Linking Unit for the Formation of One- and Two-Dimensional Polymers (C) 1737
  - Remarkably Large Geometry Dependence of <sup>57</sup>Fe NMR Chemical Shifts (C) 2312
  - Synthesis, Structure, and Molecular Orbital Calculations of Chromium(III) and Iron(III) Complexes Containing η<sup>2</sup>-Pyrazolato Ligands (C) 1591
  - The First Non-Heme Iron(III) Complex with a Ligated Carboxamido Group That Exhibits Photolability of a Bound NO Ligand (C) 2512
  - Three-Dimensional Organically Templated Open-Framework Transition Metal Selenites (C) 158
  - Unusual Peroxo Intermediates in the Reaction of Dioxygen with Carboxylate-Bridged Diiron(II,II) Paddlewheel Complexes (C) 149
- IR spectroscopy**
  - Bismuthine BiH<sub>3</sub>: Fact or Fiction? High-Resolution Infrared, Millimeter-Wave, and Ab Initio Studies (C) 2550

- Carbonyltris(trifluoromethyl)borane,  $(\text{CF}_3)_3\text{BCO}$ , An Unusual Boron Carbonyl (C) 799
- Protonated Benzene: IR Spectrum and Structure of  $\text{C}_6\text{H}_7^+$  (C) 3628
- Protonated Sulfuric Acid: Preparation of Trihydroxyoxosulfonium Hexafluoroantimonate  $\text{H}_2\text{SO}_4^+\text{SbF}_6^-$  (C) 111
- Rhodium Tetracarbonyl Hydride: The Elusive Metal Carbonyl Hydride (C) 3785
- The Adsorption of Cyclopropane and Cyclohexane on Cu(111): An Experimental and Theoretical Investigation on the Nature of the CH–Metal Interaction (C) 1735

#### IR thermography

- Baeyer–Villiger Oxidations with Hydrogen Peroxide in Fluorinated Alcohols: Lactone Formation by a Nonclassical Mechanism (C) 4481

#### Isatin

- Synthesis, Characterization, and Modification of Hyperbranched Poly(arylene oxindoles) with a Degree of Branching of 100 % (C) 4547

#### Isocyanates

- Insertion and Cycloaddition Reactivity of a Transition-Metal *N*-Metalloimine (C) 3858

#### Isocyanide ligands

- Bis(1,2,3,4- $\eta^4$ -anthracene)cobaltate(1–) (C) 1211

#### Isocyanides

- Cyanamide Synthesis by the Palladium-Catalyzed Cleavage of a Si–N Bond (C) 1780

#### Isolobal relationships

- An Analogue of Cymantrene  $[(\eta^5\text{-C}_5\text{H}_5)\text{Mn}(\text{CO})_3]$  That Contains a Dimetalladithiacyclopentadienyl ring (C) 3034
- Hypoelectronic Dimetallaboranes (H) 4220

#### Isomerization

- Activation of the Tertiary Carboxamide C–N Bond in Werner Complexes: A Classical Structure–Function Relationship (C) 3386
- From Vinyl Sulfides, Sulfoxides, and Sulfones to Vinyl Transition Metal Complexes (C) 1410
- Photoresponsive Cyclic Bis(cysteiny)l-peptides as Catalysts of Oxidative Protein Folding (C) 289
- Selective Isomerization of a Terminal Olefin Catalyzed by a Ruthenium Complex: The Synthesis of Indoles through Ring-Closing Metathesis (C) 4732
- Stereospecific Interconversion between *cis* and *trans* 2,3-Epoxy sulfides (C) 819

#### Isomers

- Two  $[\text{Nb}_6\text{Cl}_9\text{O}_3(\text{CN})_6]^{5-}$  Isomer Anions in Two  $\text{Nb}_6$  Cluster Oxyhalides:  $\text{Cs}_5[\text{Nb}_6\text{Cl}_9\text{O}_3(\text{CN})_6] \cdot 4\text{H}_2\text{O}$  and  $(\text{Me}_4\text{N})_5[\text{Nb}_6\text{Cl}_9\text{O}_3(\text{CN})_6] \cdot 5\text{H}_2\text{O}$  (C) 3002

#### Isoprenoids

- (*E*)-4-Hydroxy-3-methylbut-2-enyl Diphosphate: An Intermediate in the Formation of Terpenoids in Plant Chromoplasts (C) 2604
- Isoprenoid Biosynthesis through the Methylerythritol Phosphate Pathway: The (*E*)-4-Hydroxy-3-methylbut-2-enyl Diphosphate Synthase (GcpE) is a [4Fe–4S] Protein (C) 4337

#### Isotope effects

- Characterization of a  $\Delta^8$ -Sphingolipid Desaturase from Higher Plants: A Stereochemical and Mechanistic Study on the Origin of *E,Z* Isomers (C) 2298

- Mechanism and Origin of Stereoselectivity in Lewis Acid Catalyzed [2+2] Cycloadditions of Ketenes with Aldehydes (C) 1572
- Proton-Coupled Electron Transfer from Phosphorus: A P–H/P–D Kinetic Isotope Effect of 178 (C) 1395

#### Isotopic labeling

- (*E*)-4-Hydroxy-3-methylbut-2-enyl Diphosphate: An Intermediate in the Formation of Terpenoids in Plant Chromoplasts (C) 2604
- Phosphite Dehydrogenase: A Versatile Cofactor-Regeneration Enzyme (C) 3257
- The Shortest Route to Chiral Ditosylmethylamine (C) 497



#### Jahn–Teller distortion

- Identification of Jahn–Teller Effects in both Singlet and Triplet Low-Energy States of  $[(\eta^6\text{-benzene})\text{Nb}(\text{CO})_3]^+$  (C) 2120

#### Jasmonoids

- A New Synthesis Route to Enantiomerically Pure Jasmonoids (C) 4054



#### Kagomé lattice

- Crystal Engineering of a Nanoscale Kagomé Lattice (C) 2821
- Organically Templated Mixed-Valent Iron Sulfates Possessing Kagomé and Other Types of Layered Networks (C) 4297

#### Keggin ions

- $[\epsilon\text{-PMo}_{12}\text{O}_{36}(\text{OH})_4[\text{La}(\text{H}_2\text{O})_4]_4]^{5+}$ : The First  $\epsilon\text{-PMo}_{12}\text{O}_{40}$  Keggin Ion and Its Association with the Two-Electron-Reduced  $\alpha\text{-PMo}_{12}\text{O}_{40}$  Isomer (C) 2398

#### Ketenes

- Mechanism and Origin of Stereoselectivity in Lewis Acid Catalyzed [2+2] Cycloadditions of Ketenes with Aldehydes (C) 1572

#### Ketones

- Access to C-15 Macrocyclic Ketones by Iterative Fragmentations of a Tricyclic System (C) 4523
- Allyl Sulfoxides as Precursors for Radical Two-Carbon Ring Expansion of Cyclobutanones (C) 4323
- *cis*–*trans* Selectivity of Enzyme-Catalyzed Additions to 4-Substituted Cyclohexanones—Correlation with the Prelog/Ringold Model of Enzymatic Hydrogenation (C) 1876
- Efficient and Selective Hydroacylation of 1-Alkynes with Aldehydes by a Chelation-Assisted Catalytic System (C) 2146
- Highly Enantioselective Preparation of Multifunctionalized Propargylic Building Blocks (C) 634
- Remarkably High 1,5-Diastereoselectivity in a Nickel-Catalyzed Conjugate Addition of  $\text{Me}_2\text{Zn}$  and Carbonyl Com-

pounds to 1, $\omega$ -Dienynes with Through-Space Coupling (C) 2784

- Synthesis of  $\alpha$ -Methylene- $\gamma$ -butyrolactones: Ru-Catalyzed Cyclocarbonylation of Allenyl Aldehydes and Allenyl Ketones (C) 1584
- The Asymmetric Meerwein–Schmidt–Ponndorf–Verley Reduction of Prochiral Ketones with *i*PrOH Catalyzed by Al Catalysts (C) 1020

#### Kinases

- Total Synthesis of ( $\pm$ )-Wortmannin (C) 4680

#### Kinetic resolution

- Aminocyclopentadienyl Ruthenium Chloride: Catalytic Racemization and Dynamic Kinetic Resolution of Alcohols at Ambient Temperature (C) 2373
- A Practical Oligomeric [(salen)Co] Catalyst for Asymmetric Epoxide Ring-Opening Reactions (C) 1374
- Dynamic Kinetic Resolution and Desymmetrization of Enantiotopic Groups by Cyclodehydration of Racemic or Prochiral  $\delta$ -Oxoesters with (*R*)-Phenylglycinol: Enantioselective Synthesis of Piperidines (C) 335

#### Kinetics

- A Combined Effect of Molecular Electrostatic Potential and N7 Accessibility Explains Sequence-Dependent Binding of *cis*- $[\text{Pt}(\text{NH}_3)_2(\text{H}_2\text{O})_2]^{2+}$  to DNA Duplexes (C) 2998
- Catalytic Activity and Poisoning of Specific Sites on Supported Metal Nanoparticles (C) 2532
- Evidence for a Hydroxide Ion Catalyzed Pathway in Ester Hydrolysis in Supercritical Water (C) 623
- First Direct Observation of the Two Distinct Steps in an  $\text{S}_{\text{N}}1$  Reaction (C) 4493
- Kinetic Studies of Carbocation–Carbanion Combinations: Key to a General Concept of Polar Organic Reactivity (C) 91
- Low-Temperature Stopped-Flow Studies on the Reactions of Copper(II) Complexes and  $\text{H}_2\text{O}_2$ : The First Detection of a Mononuclear Copper(II)–Peroxo Intermediate (C) 4325
- Methyl Transfer from Rhenium to Coordinated Thiolate Groups (C) 3807
- Near-UV Photoionization of  $[\text{Ru}(\text{bpy})_3]^{2+}$ : A Catalytic Cycle with an Excited Species as Catalyst (C) 1535
- Proton-Coupled Electron Transfer from Phosphorus: A P–H/P–D Kinetic Isotope Effect of 178 (C) 1395
- Thermal Intramolecular Electron Transfer in a Ferrocene–Naphthoquinone Linked Dyad Promoted by Metal Ions (C) 620

#### Kumada coupling

- Palladium-Catalyzed Coupling of Alkyl Chlorides and Grignard Reagents (C) 4056



#### Lactams

- A Combined Intramolecular Diels–Alder/Intramolecular Schmidt Reaction: Formal Synthesis of ( $\pm$ )-Stenine (C) 4316



- Dynamic Kinetic Resolution and Desymmetrization of Enantiotopic Groups by Cyclodehydration of Racemic or Prochiral  $\delta$ -Oxoesters with (*R*)-Phenylglycinol: Enantioselective Synthesis of Piperidines (C) 335
- [Lewis Acid]<sup>+</sup>[Co(CO)<sub>4</sub>]<sup>-</sup> Complexes: A Versatile Class of Catalysts for Carbonylative Ring Expansion of Epoxides and Aziridines (C) 2781
- *N,N*-Dialkylhydrazones as the Imine Component in the Staudinger-Like [2 + 2] Cycloaddition to Benzyloxyketene (C) 831
- Stereoselective Formation of Quaternary Carbon Centers: Alkylation of  $\alpha,\alpha$ -Disubstituted Amide Enolates (C) 2338
- Total Synthesis of Polycyphalin C and Determination of the Absolute Configurations at the 3'',4'' Ring Junction (C) 2786
- Lactones**
  - An Efficient Stereoselective Total Synthesis of DL-Sesquicillin, a Glucocorticoid Antagonist (C) 1434
  - Asymmetric Baeyer–Villiger Reaction with Hydrogen Peroxide Catalyzed by a Novel Planar-Chiral Bisflavin (C) 2366
  - Catalytic, Enantioselective Syntheses of  $\beta$ -Lactones—Versatile Synthetic Building Blocks in Organic Chemistry (H) 744
  - [Lewis Acid]<sup>+</sup>[Co(CO)<sub>4</sub>]<sup>-</sup> Complexes: A Versatile Class of Catalysts for Carbonylative Ring Expansion of Epoxides and Aziridines (C) 2781
  - Mechanism and Origin of Stereoselectivity in Lewis Acid Catalyzed [2 + 2] Cycloadditions of Ketenes with Aldehydes (C) 1572
  - Synthesis of  $\alpha$ -Methylene- $\gamma$ -butyrolactones: Ru-Catalyzed Cyclocarbonylation of Allenyl Aldehydes and Allenyl Ketones (C) 1584
- Ladderanes**
  - Sigmatropic Shiftamers: Fluxionality in Broken Ladderane Polymers (C) 1033
- Lamellar structures**
  - From Surfactant–Inorganic Mesosstructures to Tungsten Nanowires (C) 333
  - Hierarchically Ordered Silica Mesophases Using Mixed Surfactant Systems as Templates (C) 3844
- Lanthanides**
  - A Europium-Ion-Based Luminescent Sensing Probe for Hydrogen Peroxide (C) 4495
  - A New Era in Divalent Organolanthanide Chemistry? (H) 743
  - “Asymmetric” Catalysis by Lanthanide Complexes (R) 3554
  - Compartmentalization of a Gadolinium Complex in the Apoferritin Cavity: A Route To Obtain High Relaxivity Contrast Agents for Magnetic Resonance Imaging (C) 1017
  - Encapsulated Lanthanides as Luminescent Materials (H) 2495
  - Enhanced Luminescence and Photomagnetic Properties of Surface-Modified EuO Nanocrystals (C) 2073
  - Exceptional Rate Enhancements and Improved Diastereoselectivities through Chelating Diamide Coordination in Intramolecular Alkene Hydroaminations Catalyzed by Yttrium and Neodymium Amido Complexes (C) 3645 Corrigendum: 4170
  - Expanding Divalent Organolanthanide Chemistry: The First Organothulium(II) Complex and the In Situ Organodyprosium(II) Reduction of Dinitrogen (C) 359
  - Gallium Flux Synthesis of Tb<sub>3-x</sub>C<sub>2</sub>Si<sub>8</sub>(B<sub>12</sub>)<sub>3</sub>: A Novel Quaternary Boron-Rich Phase Containing B<sub>12</sub> Icosahedra (C) 844
  - Ln<sub>13</sub>Br<sub>18</sub>B<sub>3</sub> (Ln = Gd, Tb)—A Compound Containing a Combination of Discrete and Condensed Clusters (C) 4257
  - Low-Temperature Destruction of Chlorinated Hydrocarbons over Lanthanide Oxide Based Catalysts (C) 4730
  - Nitridoborates of the Lanthanides: Synthesis, Structure Principles, and Properties of a New Class of Compounds (R) 3322
  - Novel pH-Reporter MRI Contrast Agents (C) 4334
  - Novel Synthetic Approach to Trinuclear 3d-4f Complexes: Specific Exchange of the Central Metal of a Trinuclear Zinc(II) Complex of a Tetraoxime Ligand with a Lanthanide(III) Ion (C) 4670
  - Preparation of Resolved Fourfold Symmetric Amphiphilic Helices Using Chiral Metallocrown Building Blocks (C) 4667
  - Pyrazolate Coordination Continues To Amaze—The New  $\mu$ - $\eta^2$ : $\eta^1$  Binding Mode and the First Case of Unidentate Coordination to a Rare Earth Metal (C) 3249
  - Synthesis and Characterization of Lanthanide Hydroxide Single-Crystal Nanowires (C) 4790
  - The Amide Protons of an Ytterbium(III) dota Tetraamide Complex Act as Efficient Antennae for Transfer of Magnetization to Bulk Water (C) 1919
  - Unprecedented Ferromagnetic Interaction in Homobinuclear Erbium and Gadolinium Complexes: Structural and Magnetic Studies (C) 323
- Lanthanum**
  - [ε-PMo<sub>12</sub>O<sub>36</sub>(OH)<sub>4</sub>][La(H<sub>2</sub>O)<sub>4</sub>]<sup>5+</sup>: The First ε-PMo<sub>12</sub>O<sub>40</sub> Keggin Ion and Its Association with the Two-Electron-Reduced α-PMo<sub>12</sub>O<sub>40</sub> Isomer (C) 2398
- Laser chemistry**
  - Near-UV Photoionization of [Ru(bpy)<sub>3</sub>]<sup>2+</sup>: A Catalytic Cycle with an Excited Species as Catalyst (C) 1535
  - The Structure of Neutral Proline (C) 4673
- Laser-induced fluorescence detection**
  - Capillary Electrophoresis Analysis of DNA Adducts as Biomarkers for Carcinogenesis (C) 445
- Laser spectroscopy**
  - ZEKE Photoelectron Spectroscopy of the *cis* and *trans* Isomers of Formanilide (C) 166
- Layered compounds**
  - An Inclusion Complex with [Gd(dmf)<sub>8</sub>]<sup>3+</sup> Ions Encapsulated in Pockets of an Anionic Array of [[Cu<sub>6</sub>(CN)<sub>9</sub>]<sup>3-</sup>]<sub>∞</sub> Units: A Cyanide-Bridged Cu–Gd Layer Structure (C) 3609
  - An Inverted Metal–Organic Framework with Compartmentalized Cavities Constructed by Using an Organic Bridging Unit Derived from the Solid State (C) 2070
  - Organically Templated Mixed-Valent Iron Sulfates Possessing Kagomé and Other Types of Layered Networks (C) 4297
  - Spontaneous Deposition of Water-Soluble Substances into Microcapsules: Phenomenon, Mechanism, and Application (C) 3789
- Lead**
  - Direct Electrochemical Aziridination of Alkenes under Metal-Free Conditions (H) 3586
- Lectins**
  - A Strategy for the Synthesis of Sulfated Peptides (C) 3449
- Lewis acids**
  - “Asymmetric” Catalysis by Lanthanide Complexes (R) 3554
  - Atom-Transfer Tandem Radical Cyclization Reactions Promoted by Lewis Acids (C) 3014
  - Catalytic Enantioselective Diels–Alder Reactions: Methods, Mechanistic Fundamentals, Pathways, and Applications (R) 1650
  - Efficient Synthesis of a Tricyclic BCD Analogue of Ouabain: Lewis Acid Catalyzed Diels–Alder Reactions of Sterically Hindered Systems (C) 4125
  - Formation and Characterization of the First Monoalumoxane, LAIO·B(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub> (C) 4294
  - Lewis Acid Controlled Regioselective 1,2 and 1,4 Reaction of  $\alpha,\beta$ -Unsaturated Carbonyl Compounds with Ti<sup>IV</sup> Enolates Derived from  $\alpha$ -Diazo  $\beta$ -Keto Carbonyl Compounds (C) 2773
  - Lewis Acidity in Transition-Metal-Doped Microporous Aluminophosphates (C) 4677
  - Lewis Acid Promoted, O-Selective, Nucleophilic Addition of Silyl Enol Ethers to N=O bonds (C) 2986 Corrigendum: 3313
  - Modular Ligands for Asymmetric Synthesis: Enantioselective Catalytic Cu<sup>II</sup>-Mediated Condensation Reaction of Ethyl Pyruvate with Danishefsky's Diene (C) 625
  - Sequential Catalytic Asymmetric Allylic Transfer Reaction: Enantioselective and Diastereoselective Construction of Tetrahydropyran Units (C) 161
  - Single-Step Assembly of a C<sub>2</sub>-Symmetrical Palladium(IV) Spirocyclic Complex (C) 3662
  - Stereoselective Pinacol-Type Rearrangement of 2,3-Epoxy Alcohols with Retention of Configuration Mediated by Bis(iodozincio)methane (C) 2837
- Lewis bases**
  - Catalytic, Asymmetric Baylis–Hillman Reaction of Imines with Methyl Vinyl Ketone and Methyl Acrylate (C) 4507
- Ligand design**
  - Designed Ligands as Probes for the Catalytic Binding Mode in Mo-Catalyzed Asymmetric Allylic Alkylation (C) 1929
  - Ru<sup>II</sup> Complexes of “Large-Surface” Ligands (C) 4022
  - Synthesis, Structure, and Molecular Orbital Calculations of Chromium(III) and Iron(III) Complexes Containing  $\eta^2$ -Pyrazolate Ligands (C) 1591
- Ligand effects**
  - Electronic and Steric Effects on Catalysts for CO<sub>2</sub>/Epoxide Polymerization: Subtle Modifications Resulting in Superior Activities (C) 2599
  - Halide Effects in Transition Metal Catalysis (R) 26
  - Ligand Topology Tuning of Iron-Catalyzed Hydrocarbon Oxidations (C) 2179
  - Low-Temperature Stopped-Flow Studies on the Reactions of Copper(II) Complexes and H<sub>2</sub>O<sub>2</sub>: The First Detection of a Mononuclear Copper(II)–Peroxo Intermediate (C) 4325

- Palladium-Catalyzed Asymmetric Allylic Alkylation of  $\alpha$ -Aryl Ketones (C) 3492
- Palladium-Catalyzed Coupling Reactions of Aryl Chlorides (R) 4176
- Suzuki Cross-Couplings of Alkyl Tosylates that Possess  $\beta$  Hydrogen Atoms: Synthetic and Mechanistic Studies (C) 3910

#### Light harvesting

- Shape-Persistent, Fluorescent Polyphenylene Dyads and a Triad for Efficient Vectorial Transduction of Excitation Energy (C) 1900

#### Linear free energy relationships

- Kinetic Studies of Carbocation–Carbanion Combinations: Key to a General Concept of Polar Organic Reactivity (C) 91

#### Lipases

- Activity of Lipases and Esterases towards Tertiary Alcohols: Insights into Structure–Function Relationships (C) 3211
- Aminocyclopentadienyl Ruthenium Chloride: Catalytic Racemization and Dynamic Kinetic Resolution of Alcohols at Ambient Temperature (C) 2373
- The Adrenaline Test for Enzymes (C) 1229

#### Lipid A

- Active Immunization with a Glycolipid Transition State Analogue Protects against Endotoxic Shock (C) 4241

#### Lipids

- Visualization of Molecular Recognition Events on Microstructured Lipid-Membrane Compartments by In Situ Scanning Force Microscopy (C) 314

#### Lipoproteins

- A Method for Thermal Generation of Aryloxy Radicals at Ambient Temperatures: Application to Low-Density Lipoprotein (LDL) Oxidation (C) 804
- Photoactivatable Synthetic Ras Proteins: “Baits” for the Identification of Plasma-Membrane-Bound Binding Partners of Ras (C) 2546

#### Liposomes

- Transmembrane Signalling (C) 3878

#### Liquid crystals

- A Thermotropic Mesophase Comprised of Closed Micellar Aggregates of the Normal Type (C) 628
- Chirality and Macroscopic Polar Order in a Ferroelectric Smectic Liquid-Crystalline Phase Formed by Achiral Polyphilic Bent-Core Molecules (C) 2408
- De Novo Structure Determination from Residual Dipolar Couplings by NMR Spectroscopy (H) 437
- Electric-Field-Modulated Circular-Difference Effects in Second-Harmonic Generation from a Chiral Liquid Crystal (C) 3882
- Novel Liquid-Crystalline Phases with Layerlike Organization (C) 4031
- Thermotropic Liquid Crystals from Planar Chiral Compounds: Optically Active Mesogenic [2.2]Paracyclophane Derivatives (C) 3411

#### Liquids

- Molecular Composition of Liquid Sulfur (C) 3199

#### Lithiation

- Are Ate Complexes True Intermediates in Lithium–Metalloid Exchange? Subtle Effects of Ion-Pair Structure in Lithium–Tellurium and Lithium–Selenium Exchange Reactions (C) 3436
- Chiral Epoxides by Desymmetrizing Deprotonation of *meso*-Epoxides (C) 2376

- Dearomatizing Disrotatory Electrocyclic Ring Closure of Lithiated *N*-Benzoyloxazolidines (C) 1049

- Diastereoselective Lithiation of ( $\eta^6$ -Arene)dibenzyltriphenylphosphane Chromium(0) Oxazoline Complexes—Direct Preparation of Enantiopure Complexes Having Planar Chiral Fragments of Either Configuration (C) 3884

- 9,9-Dilithiofluorene: The First Crystal-Structure Analysis of an  $\alpha,\alpha$ -Dilithiated Hydrocarbon (C) 4503

- Enantioselective Synthesis of Substituted Pyrrolidines by Dynamic Resolution (C) 3887

#### Lithium

- Configurational Stability and Transfer of Stereochemical Information in the Reactions of Enantioenriched Organolithium Reagents (R) 716

- Cyclotetrasilene Ion: A Reversible Redox System of Cyclotetrasilene Cation, Radical, and Anion (C) 1575

- 9,9-Dilithiofluorene: The First Crystal-Structure Analysis of an  $\alpha,\alpha$ -Dilithiated Hydrocarbon (C) 4503

- Selective Recognition of Fluoride Anion Using a  $\text{Li}^+$ –Metallacrown Complex (C) 1419

- The Ability of the  $\alpha,\alpha'$ -Diiminopyridine Ligand System to Accept Negative Charge: Isolation of Paramagnetic and Diamagnetic Trianions (C) 3873

- The “Aryne” Route to Biaryls Featuring Uncommon Substituent Patterns (C) 4272

- The First Isolable 1,1-Dilithiogermane and Its Unusual Dimeric Structure—An Effective Reagent for the Preparation of Double-Bonded Derivatives of Group 14 Elements (C) 1598

- The Synthesis of the First Compound with Li–Si–Hg Bonding:  $[\text{Li}(\text{iPr}_3\text{Si})_2\text{Si}]_2\text{Hg}$ —a Source for the  $[\text{Li}(\text{iPr}_3\text{Si})_2\text{Si}]^+$  Radical (C) 649

#### Lithography

- Fabricating Microarrays of Functional Proteins Using Affinity Contact Printing (C) 2320

- Nano- and Micropatterning by Organic–Inorganic Templating of Hierarchical Self-Assembled Structures (H) 3359

#### Living polymerization

- Catalysts for the Living Insertion Polymerization of Alkenes: Access to New Polyolefin Architectures Using Ziegler–Natta Chemistry (R) 2236

#### Luminescence

- Comment on the Communication “Highly Efficient White Organic Electroluminescence from a Double-Layer Device Based on a Boron Hydroxyphenylpyridine Complex” by Wang et al. (L) 2273

- Encapsulated Lanthanides as Luminescent Materials (H) 2495
- Enhanced Luminescence and Photomagnetic Properties of Surface-Modified EuO Nanocrystals (C) 2073

- Highly Efficient White Organic Electroluminescence from a Double-Layer Device Based on a Boron Hydroxyphenylpyridine Complex (C) 182

- Luminescence Phenomena and Solid-State Structures of Trimethyl- and Triethylgallium (C) 2519

- Reply (L) 2274

- Sensitized Luminescence of Trivalent Europium by Three-Dimensionally Arranged Anatase Nanocrystals in Mesoporous Titania Thin Films (C) 959

- Vapor-Induced Luminescence Switching in Crystals of the *Syn* Isomer of a Dinuclear (Bipyridine)platinum(II) Complex Bridged with Pyridine-2-Thiolate Ions (C) 3183

#### Lyases

- *cis*–*trans* Selectivity of Enzyme-Catalyzed Additions to 4-Substituted Cyclohexanones—Correlation with the Prelog/Ringold Model of Enzymatic Hydrogenation (C) 1876

- Fluorescence Enhancement through Enzymatic Cleavage of Internally Quenched Dendritic Peptides: A Sensitive Assay for the AspN Endoproteinase (C) 3233

- Use of Enzymes Deactivated by Site-Directed Mutagenesis for the Preparation of Enantioselective Membranes (C) 2960



#### Macrocycles

- A Cascade Cycloaddition Strategy Leading to the Total Synthesis of (–)-FR182877 (C) 1787

- Access to C-15 Macrocyclic Ketones by Iterative Fragmentations of a Tricyclic System (C) 4523

- Beltlike Macrocycles with Four and Eight (Cyclopentadienyl)(cyclobutadienyl)cobalt Building Blocks, Formed by Stepwise Oligomerization of 1,6-Cyclodecadiene Units (C) 1181

- Calixarene-Type Macrocycles by Oxidation of Phenols Related to Vitamin E (C) 1171

- *cis* and *trans* Forms of a Binuclear Subphthalocyanine (C) 2565

- Cyclo[8]pyrrole: A Simple-to-Make Expanded Porphyrin with No Meso Bridges (C) 1422

- Dynamic Covalent Chemistry (R) 898

Corrigendum: 1460

- Evaluation of Diene Hierarchies for Diels–Alder Reactions En Route to Xestocyclamine A: Elaboration of an Ansa Bridge by *B*-Alkyl Suzuki Macrocyclization (C) 1581

- Self-Assembling Organic Nanotubes from Enantiopure Cyclo-*N,N'*-Linked Oligoureas: Design, Synthesis, and Crystal Structure (C) 1895

- Stereocontrolled Synthesis of the Quinaldic Acid Macrocyclic System of Thio-strepton (C) 1937

- Synthesis of a Strapped Calix[4]pyrrole: Structure and Anion Binding Properties (C) 1757

- Synthesis, Separation, and Characterization of the Topoisomers of Fused Bicyclic Subphthalocyanine Dimers (C) 2561

- Synthesis, Spectroscopy, and Solid-State Structural Characterization of the Hexanuclear Copper Macrocycle  $[\text{Cu}_6\text{Cl}_6(\mu\text{-PCHP})_6]$  (C) 2571

- The Amide Protons of an Ytterbium(III) dota Tetraamide Complex Act as Efficient Antennae for Transfer of Magnetization to Bulk Water (C) 1919

- Total Synthesis of Diazonamide A (C) 3495

- Total Synthesis of the Presumed Amphidinolide A (C) 508

- Total Synthesis of Woodrosin I (C) 2097
- Macrocylic ligands
- Aryl C–H Activation by Cu<sup>II</sup> To Form an Organometallic Aryl–Cu<sup>III</sup> Species: A Novel Twist on Copper Disproportionation (C) 2991
- Di-, Tri-, and Tetracopper(II) Complexes of a Pseudocalixarene Macrocyclic (C) 4553
- Kinetically Controlled Protonation of a Cyclic Phosphamethanide Complex to a PH-Phosphonium Ylide (C) 3367
- Parallels in Cation and Anion Coordination: A New Class of Cascade Complexes (C) 2335
- Zinc(II) Slides on a Ligand Surface: The X-Ray Crystal Structure and Dynamic Behavior in Solution of [Zn(H<sub>2</sub>L)(tacn)] (C) 2076
- Macrolactamization
- The Total Synthesis of Proteasome Inhibitors TMC-95A and TMC-95B: Discovery of a New Method To Generate *cis*-Propenyl Amides (C) 512
- Macrolides
- Actin-Binding Marine Macrolides: Total Synthesis and Biological Importance (R) 4632
- Stereocontrolled Total Synthesis of Apicularen A and Its  $\Delta^{17,18}$  Z Isomer (C) 3701
- Total Synthesis of Amphidinolide T4 (C) 4763
- Total Synthesis of the Presumed Amphidinolide A (C) 508
- Macular degeneration
- Formation of a Nonaoxirane from A2E, a Lipofuscin Fluorophore related to Macular Degeneration, and Evidence of Singlet Oxygen Involvement (C) 814
- Magic numbers
- Structural Transitions in Clusters (R) 1468
- Magnesianion
- BuMgNiPr<sub>2</sub>: A New Base for Stoichiometric, Position-Selective Deprotonation of Cyclopropane Carboxamides and Other Weak CH Acids (C) 2169
- Magnesium
- Iron-Catalyzed Cross-Coupling Reactions of Alkyl-Grignard Reagents with Aryl Chlorides, Tosylates, and Triflates (C) 609
- Preparation of New Functionalized Cyclopropylmagnesium Reagents (C) 351
- Magnetic particles
- Dual Biosensing by Magneto-Controlled Bioelectrocatalysis (C) 1343
- Magnetic properties
- A Breathing Hybrid Organic–Inorganic Solid with Very Large Pores and High Magnetic Characteristics (C) 281
- A High Nuclearity, Mixed-Valence Manganese(III,IV) Complex: [Mn<sub>21</sub>O<sub>24</sub>(OMe)<sub>8</sub>(O<sub>2</sub>CCH<sub>2</sub>tBu)<sub>16</sub>(H<sub>2</sub>O)<sub>10</sub>] (C) 2506
- An Enantiopure Molecular Ferromagnet (C) 586
- A New Trend in Phenalenyl Chemistry: A Persistent Neutral Radical, 2,5,8-Tri-*tert*-butyl-1,3-diazaphenalenyl, and the Excited Triplet State of the Gable *syn*-Dimer in the Crystal of Column Motif (C) 1793
- An Unprecedented Mixed-Charged State in a Supramolecular Assembly of Ligand-Based Mixed-Valence Redox Isomers (ET<sup>+</sup>)<sub>3</sub>[Cr<sup>III</sup>(Cl<sub>4</sub>SO)<sub>2</sub>(Cl<sub>4</sub>Cat)]<sup>–</sup> [Cr<sup>III</sup>(Cl<sub>4</sub>SO)(Cl<sub>4</sub>Cat)<sub>2</sub>]<sup>2–</sup> (C) 130
- A Three-Dimensional Homometallic Molecular Ferrimagnet (C) 1561
- Chemically Tuning between Ferromagnetism and Antiferromagnetism by Combining Theory and Synthesis in Iron/Manganese Rhodium Borides (C) 2528
- (C<sub>2</sub>H<sub>10</sub>N<sub>2</sub>)[Cr(HPO<sub>3</sub>)<sub>3</sub>]: The First Organically Templated Fluorochromium(III) Phosphite (C) 3683
- Crystal Engineering of a Nanoscale Kagomé Lattice (C) 2821
- Enhanced Luminescence and Photomagnetic Properties of Surface-Modified EuO Nanocrystals (C) 2073
- [(Fe(OMe)<sub>2</sub>[O<sub>2</sub>CC(OH)Ph<sub>2</sub>])<sub>12</sub>]: Synthesis and Characterization of a New Member in the Family of Molecular Ferric Wheels with the Carboxylatobis(alkoxo) Bridging Unit (C) 2386
- Long-Distance Magnetic Interaction between a Mn<sup>III</sup>Mn<sup>IV</sup> (*S* = 1/2) Core and an Organic Radical: A Spectroscopic Model for the S<sub>2</sub>Y<sub>z</sub> State of Photosystem II (C) 4775
- Magnetization of Chiral Monolayers of Polypeptide: A Possible Source of Magnetism in Some Biological Membranes (C) 761
- Octametallic and Hexadecametallic Ferric Wheels (C) 4318
- Open-Framework Nickel Succinate, [Ni<sub>7</sub>(C<sub>4</sub>H<sub>4</sub>O<sub>4</sub>)<sub>6</sub>(OH)<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>] · 2H<sub>2</sub>O: A New Hybrid Material with Three-Dimensional Ni–O–Ni Connectivity (C) 457
- Organically Templated Mixed-Valent Iron Sulfates Possessing Kagomé and Other Types of Layered Networks (C) 4297
- Paramagnetic Keplerate “Necklaces” Synthesized by a Novel Room-Temperature Solid-State Reaction: Controlled Linking of Metal-Oxide-Based Nanoparticles (C) 579
- Shape Control of Thermodynamically Stable Cobalt Nanorods through Organometallic Chemistry (C) 4286
- Synthesis and Characterization of Ag<sub>2</sub>–NiO<sub>2</sub> Showing an Uncommon Charge Distribution (C) 643
- Targeted Synthesis of Ferromagnetically Coupled Complexes with Modified 1,3,5-Trihydroxybenzene Ligands (C) 3823
- Three-Dimensional Organically Templated Open-Framework Transition Metal Selenites (C) 158
- Towards Stepwise Cluster Assembly: A Decacopper(II) Complex Obtained by Controlled Expansion of a Metallasiloxane Cage (C) 4517
- Unprecedented Ferromagnetic Interaction in Homobinuclear Erbium and Gadolinium Complexes: Structural and Magnetic Studies (C) 323
- Valence-Ordering Structures and Magnetic Behavior of Metallic MMX Chain Compounds (C) 2767
- Magnetic resonance imaging
- Compartmentalization of a Gadolinium Complex in the Apoferritin Cavity: A Route To Obtain High Relaxivity Contrast Agents for Magnetic Resonance Imaging (C) 1017
- Magnetochemistry
- Ligand-Templated Four-Metal Chains Dimerize into a Unique [Cu<sup>II</sup><sub>8</sub>] Cluster (C) 1168
- Supramolecular Templating of the Double-Cubane [Cu<sub>3</sub>(Hpz<sup>Bu</sup>)<sub>6</sub>(μ<sub>3</sub>-Cl)(μ<sub>3</sub>-OH)<sub>3</sub>]<sub>2</sub>Cu]Cl<sub>6</sub> (Hpz<sup>Bu</sup> = 5-*tert*-Butylpyrazole) (C) 756
- Maillard reaction
- Unexpected Carbonyl Mobility in Aminoketoses: The Key to Major Maillard Crosslinks (C) 801
- Main group elements
- High-Pressure Syntheses of Novel Binary Nitrogen Compounds of Main Group Elements (M) 77
- Odd-Electron Bonds and Biradicals in Main Group Element Chemistry (H) 4006
- Selective Direct Synthesis of Organofunctionalized Dialkylgermanes from Solvochemically Activated Germanium (C) 1178
- Malonate
- Generation of Reactivity from Typically Stable Ligands: C–C Bond-Forming Reductive Elimination from Aryl Palladium(II) Complexes of Malonate Anions (C) 4289
- Manganese
- A High Nuclearity, Mixed-Valence Manganese(III,IV) Complex: [Mn<sub>21</sub>O<sub>24</sub>(OMe)<sub>8</sub>(O<sub>2</sub>CCH<sub>2</sub>tBu)<sub>16</sub>(H<sub>2</sub>O)<sub>10</sub>] (C) 2506
- An Analogue of Cymantrene [(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)Mn(CO)<sub>3</sub>] That Contains a Dime-talladithiacyclopentadienyl ring (C) 3034
- An Enantiopure Molecular Ferromagnet (C) 586
- A Tetranuclear Mixed-Valent Mn<sup>II</sup>Mn<sup>IV</sup> Compound with a (μ<sub>4</sub>-O)Mn<sub>4</sub> Core (C) 2148
- Bifunctional Cp∩N Complexes—Unusual Structural Features and Electronic Coupling in Highly Preorganized Bimetallic Systems (C) 2304
- From Classical to Nonclassical Metal–Boron Bonds: Synthesis of a Novel Metallaborane (C) 1359
- Long-Distance Magnetic Interaction between a Mn<sup>III</sup>Mn<sup>IV</sup> (*S* = 1/2) Core and an Organic Radical: A Spectroscopic Model for the S<sub>2</sub>Y<sub>z</sub> State of Photosystem II (C) 4775
- Reaction of “[Mn<sup>II</sup>(CH<sub>2</sub>tBu)<sub>2</sub>]” with Bidentate Diimine Ligands: From Simple Base Adducts to C–C Activation of the Ligand (C) 3025
- Self-Assembly Using Organometallicoligands as Spacers in the Controlled Formation of Isomeric 1D and 2D Supramolecular Quinonoid Networks (C) 3650
- The Elusive Terminal Imido of Manganese(V) (C) 3591
- Mannopyranosides
- Stereoselective Synthesis of β-D-Mannopyranosides with Reactive Mannopyranosyl Donors Possessing a Neighboring Electron-Withdrawing Group (C) 2972
- Mannosidases
- Substrate Distortion by a β-Mannanase: Snapshots of the Michaelis and Covalent-Intermediate Complexes Suggest a B<sub>2,5</sub> Conformation for the Transition State (C) 2824
- Marine bacteria
- Biosynthesis of Polyunsaturated Fatty Acids by Polyketide Synthases (H) 1866
- Mass spectrometry
- A Mass Spectrometry Based Direct-Binding Assay for Screening Binding Partners of Proteins (C) 646
- Barrier Height Titration by Tunable Photoionization Combined with Chemical Monitoring: Unimolecular Keto/Enol Tautomerization of the Acetamide Cation Radical (C) 2748
- Chiral Transmission between Amino Acids: Chirally Selective Amino Acid Substitution in the Serine Octamer as a

- Possible Step in Homochirogenesis (C) 1721
- Expanded Cubane: Synthesis of a Cage Compound with a  $C_{56}$  Core by Acetylenic Scaffolding and Gas-Phase Transformations into Fullerenes (C) 4339
  - Experimental Detection of the Pentaazacyclopentadienide (Pentazolate) Anion,  $cyclo-N_5^-$  (C) 3051
  - Gas-Phase Detection of the Elusive Benzoborirene Molecule (C) 2350
  - Hydrolytic Activation of C–F Bonds in the Gas Phase by Intrinsically Unreactive Chromium Cations (C) 2538 Corrigendum: 3085
  - Investigation of Reactive Intermediates of Chemical Reactions in Solution by Electrospray Ionization Mass Spectrometry: Radical Chain Reactions (C) 2738
  - News about Oxygen (H) 573
  - Using Mass Spectrometry to Characterize Self-Assembled Monolayers Presenting Peptides, Proteins, and Carbohydrates (C) 4715
- Materials science
- Biological and Medical Significance of Calcium Phosphates (R) 3130
  - $(C_2H_{10}N_2)[Cr(HPO_3)_2F_3]$ : The First Organically Templated Fluorochromium(III) Phosphite (C) 3683
  - High-Throughput Multilevel Performance Screening of Advanced Materials (C) 4230
  - Morphosynthesis of Octacalcium Phosphate Hollow Microspheres by Polyelectrolyte-Mediated Crystallization (C) 2163
  - Shape-Memory Polymers (R) 2034
  - Three-Dimensional Electronic Delocalization in Chiral Conjugated Polymers (C) 4225
- Matrix isolation
- Characterization and Photochemistry of the Gallium and Indium Subhydrides  $Ga_2H_2$  and  $In_2H_2$  (C) 796
  - Characterization and Photochemistry of the Silane–Aluminum Complex  $Al \cdot SiH_4$  and Its Photoproducts  $HALSiH_3$  and  $AlSiH_3$  in a Solid Argon Matrix (C) 1538
  - Hydrides and Iodides of Gold (H) 2269
  - 2,3,5,6-Tetrafluorophenylnitren-4-yl: A Quartet-Ground-State Nitrene Radical (C) 2742
- MDR (multi drug resistance) modulators
- Using Molecular Symmetry to Form New Drugs: Hydroxymethyl-Substituted 3,9-Diazatetraasteranes as the First Class of Symmetric MDR Modulators (C) 3623
- Mechanical properties
- High-Performance Fibers from Spider Silk (H) 2721
- Medicinal chemistry
- A Novel Concept of Reversing Neuromuscular Block: Chemical Encapsulation of Rocuronium Bromide by a Cyclodextrin-Based Synthetic Host (C) 265
  - Combinatorial and Rational Strategies To Develop Nonpeptidic  $\alpha 4\beta 7$ -Integrin Antagonists from Cyclic Peptides (C) 3007
  - Dendritic Polymers in Biomedical Applications: From Potential to Clinical Use in Diagnostics and Therapy (M) 1329
  - Heparin–Protein Interactions (R) 390
  - Ones, Thiones, and *N*-Oxides: An Exercise in Imidazole Chemistry (C) 2290
  - Using Molecular Symmetry to Form New Drugs: Hydroxymethyl-Substituted 3,9-Diazatetraasteranes as the First Class of Symmetric MDR Modulators (C) 3623
- Medium-sized rings
- $[(arene)Rh(cod)]^+$  Complexes as Catalysts for  $[5 + 2]$  Cycloaddition Reactions (C) 4550
- Melt blending
- Vesicular Nanostructures Prepared by Reactive Melt Blending (C) 2154
- Membrane proteins
- Biomimetic Model of a Plant Photosystem Consisting of a Recombinant Light-Harvesting Complex and a Terrylene Dye (C) 3378
  - The Structures of Integrins and Integrin–Ligand Complexes: Implications for Drug Design and Signal Transduction (M) 3767
- Membranes
- Adhesive and Anti-Adhesive Agents in Giant Vesicles (C) 1350
  - Highly Selective Transport of Organic Compounds by Using Supported Liquid Membranes Based on Ionic Liquids (C) 2771
  - Irreversible Adsorption of Cellobiose, Ascorbic Acid, and Tyrosine to Hydrophobic Surfaces in Water and Their Separation by Molecular Stirring (C) 2730
  - Rigid Lipid Membranes and Nanometer Clefs: Motifs for the Creation of Molecular Landscapes (R) 1828
  - Transmembrane Signalling (C) 3878
  - Use of Enzymes Deactivated by Site-Directed Mutagenesis for the Preparation of Enantioselective Membranes (C) 2960
- Mercury
- A Selective Chromogenic Reagent for Nitrate (C) 1416
  - A Synthetic Approach towards the C1–C9 Subunit of Zincophorin (C) 2144
  - The Synthesis of the First Compound with Li–Si–Hg Bonding:  $[(Li(iPr_3Si)_2Si)_2]_2Hg$ —a Source for the  $[Li(iPr_3Si)_2Si]^\cdot$  Radical (C) 649
  - Voltage-Driven Changes in Molecular Dipoles Yield Negative Differential Resistance at Room Temperature (C) 827
  - $^1[HgGe_9]^{2-}$ —A Polymer with Zintl Ions as Building Blocks Covalently Linked by Heteroatoms (C) 3213
- Mesophases
- A Thermotropic Mesophase Comprised of Closed Micellar Aggregates of the Normal Type (C) 628
  - Chirality and Macroscopic Polar Order in a Ferroelectric Smectic Liquid-Crystalline Phase Formed by Achiral Polyphilic Bent-Core Molecules (C) 2408
  - Hierarchically Ordered Silica Mesophases Using Mixed Surfactant Systems as Templates (C) 3844
  - Novel Liquid-Crystalline Phases with Layerlike Organization (C) 4031
  - Nucleation of MCM-41 Nanoparticles by Internal Reorganization of Disordered and Nematic-Like Silica–Surfactant Clusters (C) 2151
- Mesoporous materials
- Chiral Templating of Silica–Lipid Lamellar Mesophase with Helical Tubular Architecture (C) 2988
  - Color-Tunable Transparent Mesoporous Silica Films: Immobilization of One-Dimensional Columnar Charge-Transfer Assemblies in Aligned Silicate Nanochannels (C) 3414
  - Hexagonal and Cubic Thermally Stable Mesoporous Tin(IV) Phosphates with Acidic and Catalytic Properties (C) 1594
  - Immobilized Highly Charged Colloidal Crystals: A New Route to Three-Dimensional Mesoscale Structured Materials (C) 102
  - Nucleation of MCM-41 Nanoparticles by Internal Reorganization of Disordered and Nematic-Like Silica–Surfactant Clusters (C) 2151
  - Recent Advances in Synthesis and Applications of Transition Metal Containing Mesoporous Molecular Sieves (R) 214
  - Room-Temperature Synthesis in Acidic Media of Large-Pore Three-Dimensional Bicontinuous Mesoporous Silica with *1a3d* Symmetry (C) 3876
  - Sensitized Luminescence of Trivalent Europium by Three-Dimensionally Arranged Anatase Nanocrystals in Mesoporous Titania Thin Films (C) 959
  - Solid-State NMR Studies of MCM-41 Supported with a Highly Catalytically Active Cluster (C) 4726
  - Taking Nanocasting One Step Further: Replicating CMK-3 as a Silica Material (C) 3489
  - Three-Dimensional Organically Templated Open-Framework Transition Metal Selenites (C) 158
  - Ultrastable and Highly Acidic, Zeolite-Coated Mesoporous Aluminosilicates (C) 1036
- Metalation
- BuMgNiPr<sub>2</sub>: A New Base for Stoichiometric, Position-Selective Deprotonation of Cyclopropane Carboxamides and Other Weak CH Acids (C) 2169
  - Directed *ortho*-Metalation, a New Insight into Organosodium Chemistry (C) 340
  - Sterically Hindered Lithium Dialkylcuprates for the Generation of Highly Functionalized Mixed Cuprates through a Halogen–Copper Exchange (C) 3263
  - The First Highly Efficient Asymmetric Synthesis of  $\alpha$ -Substituted Methyl Sulfonates (C) 109
- Metal–boron bonds
- From Classical to Nonclassical Metal–Boron Bonds: Synthesis of a Novel Metallaborane (C) 1359
- Metallaboranes
- From Classical to Nonclassical Metal–Boron Bonds: Synthesis of a Novel Metallaborane (C) 1359
  - Hypoelectronic Dimetallaboranes (H) 4220
- Metallacarboranes
- Direct Electrophilic Insertion into a Twelve-Vertex Metallacarborane (C) 4112
  - Reaction of 2-Butyne with *nido*-[1,2-(Cp\**RuH*)<sub>2</sub>B<sub>3</sub>H<sub>7</sub>]: Improved Kinetic Control Leads to Metallacarboranes of Novel Composition and Structure (C) 2578
- Metallacryptates
- Hybrid Metallacoronates or One-Dimensional Oxo-Bridged Metal Strings by Self-Assembly—Coordination Number Controlled Product Formation (C) 304
- Metallacycles
- An Analogue of Cymantrene  $[(\eta^5-C_5H_5)Mn(CO)_3]$  That Contains a Dimetalladithiacyclopentadienyl ring (C) 3034
  - A Reaction Pathway of  $[Fe(CO)_5]$  with Alkynes via Ferrabicyclobutenones (C) 2393

- A Triple-Decker Complex with a Central Metallabenzene (C) 1589
- Metallabenzenes and Valence Isomers. Synthesis and Characterization of a Platinabenzene (C) 3470
- Naphtho[1,8-*b,c*]phosphete and 1,2-Diphosphaacenaphthene from the Reaction of 1,8-Dilithionaphthalene with  $\text{RPhCl}_2$  (C) 3897
- Rearrangement of 3-Rhoda-1,2-dioxolanes to Rhodium Formylmethyl Hydroxy Complexes (C) 575
- Selective Recognition of Fluoride Anion Using a  $\text{Li}^+$ –Metallacrown Complex (C) 1419
- Single-Step Assembly of a  $\text{C}_2$ -Symmetrical Palladium(IV) Spirocyclic Complex (C) 3662
- Sulfur-Functionalized Olefins for Titanacycle Formation: Tandem Asymmetric Cyclization and the Pummerer Reaction Based on Sulfoxides Promoted by Titanium(II)-to-Titanium(IV) Relay (C) 3671
- The First Disulfur and Diselenium Complexes of Platinum: Syntheses and Crystal Structures (C) 136
- Metallocavitands**
  - A Cyclodextrin Diphosphane as a First and Second Coordination Sphere Cavitand: Evidence for Weak C–H $\cdots$ Cl–M Hydrogen Bonds within Metal-Capped Cavities (C) 2593
- Metalloenes**
  - A New Era in Divalent Organolanthanide Chemistry? (H) 743
  - Anti-Markovnikov Hydroamination of Terminal Alkynes (C) 2541
  - Expanding Divalent Organolanthanide Chemistry: The First Organothulium(II) Complex and the In Situ Organodysprosium(II) Reduction of Dinitrogen (C) 359
  - 1,1'-Ferrocenedi(amido) Chelate Ligands in Titanium and Zirconium Complexes (H) 956
  - "Oscillating" Metallocene Catalysts: How Do They Oscillate? (C) 505
  - Reversible Photoinsertion of Ferrocene into a Hydrophobic Semiconductor Surface: A Chemionic Switch (C) 3653
  - Structural Characterization of a Cationic Zirconocene Olefin Polymerization Catalyst with its Methylated Boralumoxane Counterion (C) 2166
  - Tetra- and Pentacyclopentylcyclopentadiene—Two New Donor-Substituted Ligands for Metal Complexes (C) 786
  - The Decaphosphatitanocene Dianion—A New Chapter in the Chemistry of Naked Polyphosphorus Ligands (H) 2723
  - Thermal Intramolecular Electron Transfer in a Ferrocene–Naphthoquinone Linked Dyad Promoted by Metal Ions (C) 620
- Metalloenzymes**
  - A Diferric Peroxo Complex with an Unprecedented Spin Configuration: An  $S=2$  System Arising from an  $S=5/2, 1/2$  Pair (C) 617
  - A Trigonal-Bipyramidal Ferric Aqua Complex with a Sterically Hindered Salen Ligand as a Model for the Active Site of Protocatechuate 3,4-Dioxygenase (C) 3638
  - Bis( $\mu$ -oxo)dimetal "Diamond" Cores in Copper and Iron Complexes Relevant to Biocatalysis (R) 1114 Corrigendum: 1821
  - Copper-Catalyzed Oxidative Heterocyclization by Atmospheric Oxygen (C) 2962
- Mimicking Metallophosphatases: Revealing a Role for an OH Group with No Libido (C) 849
- Metal–metal interactions**
  - Alkene C–H Activations at Dinuclear Complexes Promoted by Oxidation (C) 1208
  - A Unique Bismuth–Iron Chain Polymer Containing the  $\cdots\text{-Bi-Fe-}\cdots$  Link: Formation and Structure of  $[\text{nBuBiFe}(\text{CO})_4]_\infty$  (C) 2384
  - Bifunctional  $\text{Cp}\square\text{N}$  Complexes—Unusual Structural Features and Electronic Coupling in Highly Preorganized Bimetallic Systems (C) 2304
  - Chain Compounds Based on Transition Metal Backbones: New Life for an Old Topic (H) 4453
  - Facile Syntheses of Copper(I) Alkynyl Clusters Stabilized by Hexafluoroacetylacetonate (hfac) Ligands: The Structure of  $[\text{Cu}_{26}(\text{hfac})_{11}(1\text{-pentynyl})_{15}]$  (C) 3038
  - 1,1'-Ferrocenedi(amido) Chelate Ligands in Titanium and Zirconium Complexes (H) 956
  - $[\text{Ga}_{22}[\text{N}(\text{SiMe}_3)_2]_{10}]^{2-}$ : A Metalloid Cluster Compound with a Variation of the  $\text{Ga}_{22}$  Framework (C) 1882
  - Heterodinuclear Transition-Metal Complexes with Multiple Metal–Metal Bonds (R) 3948
  - Metalloid Aluminum and Gallium Clusters: Element Modifications on the Molecular Scale? (R) 3532 Corrigendum: 4170
  - Octametallic and Hexadecametallic Ferric Wheels (C) 4318
  - Synthesis and Characterization of the Neutral "Digallene"  $\text{Ar}'\text{GaGaAr}'$  and Its Reduction to  $\text{Na}_2\text{Ar}'\text{GaGaAr}'$  ( $\text{Ar}' = 2,6\text{-Dipp}_2\text{C}_6\text{H}_3$ ,  $\text{Dipp} = 2,6\text{-iPr}_2\text{C}_6\text{H}_3$ ) (C) 2842
  - Wet Chemistry Synthesis of  $\beta$ -Nickel Aluminide  $\text{NiAl}$  (C) 599
- Metal–oxo complexes**
  - A Tetranuclear Mixed-Valent  $\text{Mn}^{\text{II}}\text{Mn}^{\text{IV}}$  Compound with a  $(\mu_4\text{-O})\text{Mn}_4$  Core (C) 2148
  - Bis( $\mu$ -oxo)dimetal "Diamond" Cores in Copper and Iron Complexes Relevant to Biocatalysis (R) 1114 Corrigendum: 1821
- Metathesis**
  - A Boronic Ester Annulation Strategy for Diversity-Oriented Organic Synthesis (C) 152
  - A Highly Active and Air-Stable Ruthenium Complex for Olefin Metathesis (C) 794
  - A Highly Efficient Ruthenium Catalyst for Metathesis Reactions (C) 4038
  - An Alkynylboronic Ester Annulation: Development of Synthetic Methods for Application to Diversity-Oriented Organic Synthesis (C) 3272
  - A New Highly Efficient Ruthenium Metathesis Catalyst (C) 2403
  - A Novel Polymer-Supported Arene–Ruthenium Complex for Ring-Closing Olefin Metathesis (C) 2602
  - A One-Pot Cross-Metathesis/Allylboration Reaction: A Three-Component Coupling for the Synthesis of Functionalized Homoallylic Alcohols (C) 807
  - A Practical and Highly Active Ruthenium-Based Catalyst that Effects the Cross Metathesis of Acrylonitrile (C) 4035
  - A Self-Generating, Highly Active, and Recyclable Olefin-Metathesis Catalyst (C) 3835
- Formal Vinyl C–H Activation and Allylic Oxidation by Olefin Metathesis (C) 3171
- Ligand Rotation Distinguishes First- and Second-Generation Ruthenium Metathesis Catalysts (C) 4484
- Selective Isomerization of a Terminal Olefin Catalyzed by a Ruthenium Complex: The Synthesis of Indoles through Ring-Closing Metathesis (C) 4732
- $\text{sp}^3$  Carbon Chains Surrounded by  $\text{sp}^3$  Carbon Double Helices: A Class of Molecules that are Accessible by Self-Assembly and Models for "Insulated" Molecular-Scale Devices (C) 1871
- Stereoselective Cyclopolymerization of 1,6-Heptadiynes: Access to Alternating *cis-trans*-1,2-(Cyclopent-1-enylene)vinylenes by Fine-Tuning of Molybdenum Imidoalkylidenes (C) 4044
- Stereoselective Total Synthesis of Epothilones by the Metathesis Approach Involving C9–C10 Bond Formation (C) 1381
- Synthesis of A,B-Alternating Copolymers by Ring-Opening-Insertion-Metathesis Polymerization (C) 3839
- Synthesis of Functionalized Pyrans by Domino Metathesis Reaction of Oxabicyclo Derivatives: Dramatic Effect of Remote Substituents on Reactivity and Selectivity (C) 4560
- The First Polymer-Supported and Recyclable Chiral Catalyst for Enantioselective Olefin Metathesis (C) 589
- The Total Synthesis of Coleophomones B and C (C) 3276
- Total Synthesis of Ambruticin (C) 176
- Total Synthesis of Amphidinolide T4 (C) 4763
- Total Synthesis of Woodrosin I (C) 2097
- Methane**
  - Characterization of  $\text{C}_2$  ( $\text{C}_x\text{H}_y$ ) Intermediates from Adsorption and Decomposition of Methane on Supported Metal Catalysts by in situ INS Vibrational Spectroscopy (C) 144
- N-Methyl amino acids**
  - Total Synthesis of the Nematicidal Cyclodecapeptide Omphalotin A by Using Racemization-Free Triphosgene-Mediated Couplings in the Solid Phase (C) 2307
- Methyl transfer**
  - Methyl Transfer from Rhenium to Coordinated Thiolate Groups (C) 3807
- Micelles**
  - A Thermotropic Mesophase Comprised of Closed Micellar Aggregates of the Normal Type (C) 628
  - A Three-Phase Emulsion/Solid-Heterogenization Method for Transport and Catalysis (C) 4132
  - Fabrication of Ultrafine Conducting Polymer and Graphite Nanoparticles (C) 4016
  - Hydrothermal Synthesis of Molecular Sieve Fibers: Using Microemulsions To Control Crystal Morphology (C) 476
  - Micelle Formation and Antimicrobial Activity of Cholic Acid Derivatives with Three Permanent Ionic Head Groups (C) 4275
  - Micelles and Hollow Nanospheres Based on  $\epsilon$ -Caprolactone-Containing Polymers in Aqueous Media (C) 2950
  - Molecular Dynamic Computer Simulations of Phase Behavior of Non-Ionic Surfactants (C) 983

- Monodisperse Surface Micelles of Non-polar Amphiphiles in Langmuir Monolayers (C) 4331
- pH-Responsive Molecular Nanocarriers Based on Dendritic Core-Shell Architectures (C) 4252
- Polymeric Surfactants for the New Millennium: A pH-Responsive, Zwitterionic, Schizophrenic Diblock Copolymer (C) 1413
- Michael addition
  - A Highly Enantioselective and General Conjugate Addition of Thiols to Cyclic Enones with an Organic Catalyst (C) 338
  - Generation of Organotantalum Reagents and Conjugate Addition to Enones (C) 1389
  - Kinetic Studies of Carbocation–Carbanion Combinations: Key to a General Concept of Polar Organic Reactivity (C) 91
  - Lewis Acid Controlled Regioselective 1,2 and 1,4 Reaction of  $\alpha,\beta$ -Unsaturated Carbonyl Compounds with  $\text{Ti}^{\text{IV}}$  Enolates Derived from  $\alpha$ -Diazo  $\beta$ -Keto Carbonyl Compounds (C) 2773
  - Titanium-Promoted Stereoselective Synthesis of Hydroindolones from *p*-Quinamines by Domino Conjugate Additions (C) 2753
- Microarrays
  - Carbohydrate Arrays as Tools for Glycomics (H) 3583
- Microcalorimetry
  - Hexagonal and Cubic Thermally Stable Mesoporous  $\text{Ti}(\text{IV})$  Phosphates with Acidic and Catalytic Properties (C) 1594
- Microcapsules
  - Novel Capsules with High Stability and Controlled Permeability by Hierarchic Templating (C) 4019
  - Spontaneous Deposition of Water-Soluble Substances into Microcapsules: Phenomenon, Mechanism, and Application (C) 3789
- Microcontact printing
  - Fabricating Microarrays of Functional Proteins Using Affinity Contact Printing (C) 2320
- Microencapsulation
  - A Novel Polymer-Supported Arene–Ruthenium Complex for Ring-Closing Olefin Metathesis (C) 2602
- Microporous materials
  - A Breathing Hybrid Organic–Inorganic Solid with Very Large Pores and High Magnetic Characteristics (C) 281
  - A Breathing Ionic Crystal Displaying Selective Binding of Small Alcohols and Nitriles:  $\text{K}_3[\text{Cr}_3\text{O}(\text{OOCH})_6(\text{H}_2\text{O})_3][\alpha\text{-SiW}_{12}\text{O}_{40}] \cdot 16\text{H}_2\text{O}$  (C) 2814
  - A 3D Open–Framework Indium Telluride and Its Selenide and Sulfide Analogues (C) 1959
  - A Pillared-Layer Coordination Polymer Network Displaying Hysteretic Sorption:  $[\text{Cu}_2(\text{pzdc})_2(\text{dpyg})]_n$  (pzdc = Pyrazine-2,3-dicarboxylate; dpyg = 1,2-Di(4-pyridyl)glycol) (C) 133
  - A Reactive Intermediate in the Synthesis of Iron Arsenates: Synthesis of the First One-Dimensional Iron Arsenate Oxalate and Its Transformation into Two- and Three-Dimensional Iron Arsenates (C) 1224
  - Computational Prediction of the Phase Transformation of Two As-Synthesized Oxyfluorinated Compounds into the Zeotype CHA Forms (C) 972
- Microporous Supramolecular Coordination Compounds as Chemosensory Photonic Lattices (C) 154
- Morphological Control of MCM-41 by Pseudomorphic Synthesis (C) 2590
- Open-Framework Nickel Succinate,  $[\text{Ni}_7(\text{C}_4\text{H}_4\text{O}_4)_6(\text{OH})_2(\text{H}_2\text{O})_2] \cdot 2\text{H}_2\text{O}$ : A New Hybrid Material with Three-Dimensional Ni–O–Ni Connectivity (C) 457
- QMOF-1 and QMOF-2: Three-Dimensional Metal–Organic Open Frameworks with a Quartzlike Topology (C) 4471
- Microsegregation
  - Chirality and Macroscopic Polar Order in a Ferroelectric Smectic Liquid-Crystalline Phase Formed by Achiral Polyphilic Bent-Core Molecules (C) 2408
  - Novel Liquid-Crystalline Phases with Layerlike Organization (C) 4031
- Microspheres
  - Morphosynthesis of Octacalcium Phosphate Hollow Microspheres by Polyelectrolyte-Mediated Crystallization (C) 2163
- Microwave chemistry
  - Microwave-Assisted Reactions in Organic Synthesis—Are There Any Non-thermal Microwave Effects? Response to the Highlight by N. Kuhnert (L) 3589
  - Microwave-Assisted Reactions in Organic Synthesis—Are There Any Non-thermal Microwave Effects? (H) 1863
- Mineralization
  - Semiconductor Nanohelices Templated by Supramolecular Ribbons (C) 1705
- Mixed-valent compounds
  - A Highly Reactive Uranium Complex Supported by the Calix[4]tetrapyrrole Tetraanion Affording Dinitrogen Cleavage, Solvent Deoxygenation, and Polysilanol Depolymerization (C) 3433
  - A High Nuclearity, Mixed-Valence Manganese(III,IV) Complex:  $[\text{Mn}_{21}\text{O}_{24}(\text{OMe})_8(\text{O}_2\text{CCH}_2\text{tBu})_{16}(\text{H}_2\text{O})_{10}]$  (C) 2506
  - An Unprecedented Mixed-Charged State in a Supramolecular Assembly of Ligand-Based Mixed-Valence Redox Isomers  $(\text{ET}^+)_3[\text{Cr}^{\text{III}}(\text{Cl}_4\text{SQ})_2(\text{Cl}_4\text{Cat})]^- - [\text{Cr}^{\text{III}}(\text{Cl}_4\text{SQ})(\text{Cl}_4\text{Cat})_2]^{2-}$  (C) 130
  - A Reactive Intermediate in the Synthesis of Iron Arsenates: Synthesis of the First One-Dimensional Iron Arsenate Oxalate and Its Transformation into Two- and Three-Dimensional Iron Arsenates (C) 1224
  - A Tetranuclear Mixed-Valent  $\text{Mn}^{\text{II}}\text{Mn}^{\text{IV}}$  Compound with a  $(\mu_4\text{-O})\text{Mn}_4$  Core (C) 2148
  - Bifunctional  $\text{Cp}\square\text{N}$  Complexes—Unusual Structural Features and Electronic Coupling in Highly Preorganized Bimetallic Systems (C) 2304
  - Hydroxylation of N-Heterocycle Ligands Observed in Two Unusual Mixed-Valence  $\text{Cu}^{\text{I}}/\text{Cu}^{\text{II}}$  Complexes (C) 1029
  - Solvothermal Synthesis, Crystal Structure, Thermal Stability, and Mössbauer Spectroscopic Investigation of the Mixed-Valent Thioantimonate(III,V)  $[\text{Ni}(\text{dien})_2]_2\text{Sb}_2\text{S}_9$  (C) 4487
  - Valence-Ordering Structures and Magnetic Behavior of Metallic MMX Chain Compounds (C) 2767
- Molecular beams
  - Catalytic Activity and Poisoning of Specific Sites on Supported Metal Nanoparticles (C) 2532
- Molecular clips
  - Selective Complexation of *N*-Alkylpyridinium Salts: Recognition of  $\text{NAD}^+$  in Water (C) 1355
- Molecular devices
  - A Cucurbituril-Based Gyroscane: A New Supramolecular Form (C) 275
  - DNA On Silicon Devices: On-Chip Synthesis, Hybridization, and Charge Transfer (C) 615
  - Nanomechanical Devices Based on DNA (H) 3779
  - Of Molecular Gyroscopes, Matroshka Dolls, and Other “Nano”-Toys (H) 1513
  - Signal Amplification by a Fluorescent Indicator of a pH-Driven Intramolecular Translocation of a Copper(II) Ion (C) 2553
  - $\text{sp}^3$  Carbon Chains Surrounded by  $\text{sp}^3$  Carbon Double Helices: A Class of Molecules that are Accessible by Self-Assembly and Models for “Insulated” Molecular-Scale Devices (C) 1871
  - The Genesis of Molecular Electronics (R) 4378
  - Transfer of Chiral Information through Achiral Ion Recognition by a Novel Pseudocrown Ether with a Binaphthyl Moiety (C) 481
  - Unidirectional Photoinduced Shuttling in a Rotaxane with a Symmetric Stilbene Dumbbell (C) 1769
  - Voltage-Driven Changes in Molecular Dipoles Yield Negative Differential Resistance at Room Temperature (C) 827
- Molecular dynamics
  - Remarkably Large Geometry Dependence of  $^{57}\text{Fe}$  NMR Chemical Shifts (C) 2312
  - Structure of a Drug-Induced DNA T-Bulge: Implications for DNA Frameshift Mutations (C) 4754
- Molecular electronics
  - A *trans*-Platinum(II) Complex as a Single-Molecule Insulator (C) 1183
  - The Genesis of Molecular Electronics (R) 4378
- Molecular evolution
  - Chiral Transmission between Amino Acids: Chirally Selective Amino Acid Substitution in the Serine Octamer as a Possible Step in Homochirogenesis (C) 1721
  - Expanding the Reaction Scope of DNA-Templated Synthesis (C) 1796
- Molecular gastronomy
  - Molecular Gastronomy (E) 83
- Molecular landscapes
  - Rigid Lipid Membranes and Nanometer Clefts: Motifs for the Creation of Molecular Landscapes (R) 1828
- Molecular modeling
  - Activity of Lipases and Esterases towards Tertiary Alcohols: Insights into Structure–Function Relationships (C) 3211
  - *cis*–*trans* Selectivity of Enzyme-Catalyzed Additions to 4-Substituted Cyclohexanones—Correlation with the Prelog/Ringold Model of Enzymatic Hydrogenation (C) 1876
  - Molecular Dynamic Computer Simulations of Phase Behavior of Non-Ionic Surfactants (C) 983
  - Stable Helical Secondary Structure in Short-Chain *N,N'*-Linked Oligoureas Bearing Proteinogenic Side Chains (C) 1893
  - The Structures of Integrins and Integrin–Ligand Complexes: Implications for Drug Design and Signal Transduction (M) 3767
  - Understanding Zeolite Catalysis: Inverse Shape Selectivity Revised (C) 2499

## Molecular recognition

- An Antibody that Reconstitutes the "Base-On" Form of B<sub>12</sub> Coenzymes (C) 3613
- A Ring-in-Ring Complex (C) 270
- Assignment of Stereochemistry of Facially Protected Bis-porphyrins by Use of a "Molecular Ruler" (C) 1709
- Changeable Pore Sizes Allowing Effective and Specific Recognition by a Molybdenum-Oxide Based "Nanosponge": En Route to Sphere-Surface and Nanoporous-Cluster Chemistry (C) 3604
- De Novo Protein Surface Design: Use of Cation- $\pi$  Interactions to Enhance Binding between an  $\alpha$ -Helical Peptide and a Cationic Molecule in 50% Aqueous Solution (C) 117
- Designing Protein Denaturants: Synthetic Agents Induce Cytochrome *c* Unfolding at Low Concentrations and Stoichiometries (C) 641
- Direct Observation of a Cytosine Analogue that Forms Five Hydrogen Bonds to Guanosine: Guanidino G-Clamp (C) 115
- Foldamers as Dynamic Receptors: Probing the Mechanism of Molecular Association between Helical Oligomers and Rodlike Ligands (C) 325
- Heparin-Protein Interactions (R) 390
- Highly Selective Disaccharide Recognition by a Tricyclic Octaamide Cage (C) 4093
- Modular Building Blocks for Amino Acid Recognition in Peptides (C) 1751
- Molecular Encapsulation (R) 1488
- Molecular Encapsulation of Anions in a Neutral Receptor (C) 3423
- Molecular Recognition of Carbohydrates through Directional Hydrogen Bonds by Urea-Appended Porphyrins in Organic Media (C) 2947
- Noncovalent Chemistry of Nitrous Oxide: Interactions with Secondary *cis* Amides in Solution (C) 3854
- Pyrophosphate Detection in Water by Fluorescence Competition Assays: Inducing Selectivity through the Choice of the Indicator (C) 3811
- Selective Complexation of *N*-Alkylpyridinium Salts: Recognition of NAD<sup>+</sup> in Water (C) 1355
- Solid-State and Solution Studies of a Tetrameric Capsule and Its Guests (C) 3793
- Starched Carbon Nanotubes (C) 2508
- Synthesis of a Strapped Calix[4]pyrrole: Structure and Anion Binding Properties (C) 1757
- The Consequences of Chirality in Crowded Arenes—Macromolecular Helicity, Hierarchical Ordering, and Directed Assembly (C) 2828
- The Rational Design of Anion Host Compounds: An Exercise in Subtle Energetics (C) 104
- Transfer of Chiral Information through Achiral Ion Recognition by a Novel Pseudocrown Ether with a Binaphthyl Moiety (C) 481
- Trifluoroacetophenone Derivatives as Amino Acid Selective Ionophores for the Potentiometric Determination of Phenylalanine (C) 3005
- Visualization of Molecular Recognition Events on Microstructured Lipid-Membrane Compartments by In Situ Scanning Force Microscopy (C) 314

## Molecular sieves

- Hydrothermal Synthesis of Molecular Sieve Fibers: Using Microemulsions To Control Crystal Morphology (C) 476

## Molecular vessels

- Molecular Encapsulation (R) 1488
- Rate Acceleration through Dispersion Interactions: Effect of a Hemiacetate on the Transition State of Inner Phase Decompositions of Diazirines (C) 96

## Molybdenum

- Ambiphilicity: A Characteristic Reactivity Principle of  $\pi$ -Bound Phosphorus Heterocycles (C) 4047
- C-C Coupling between an  $\eta^3$ -Allyl Ligand and Carbon Nucleophiles in Molybdenum and Tungsten Complexes: Structural Characterization of the Key Intermediate (C) 1427
- Designed Ligands as Probes for the Catalytic Binding Mode in Mo-Catalyzed Asymmetric Allylic Alkylation (C) 1929
- Heteropolymolybdates of As<sup>III</sup>, Sb<sup>III</sup>, Bi<sup>III</sup>, Se<sup>IV</sup>, and Te<sup>IV</sup> Functionalized by Amino Acids (C) 4070
- Highly Selective Formation of Eight-Membered-Ring Systems by Oxidative Cyclization with Molybdenum Pentachloride—An Environmentally Friendly and Inexpensive Access to 2,2'-Cyclo-lignans (C) 2981
- Hybrid Molecular Dumbbells: Bridging Polyoxometalate Clusters with an Organic  $\pi$ -Conjugated Rod (C) 1566
- "Molecular Symmetry Breakers" Generating Metal-Oxide-Based Nanoobject Fragments as Synthons for Complex Structures: [[Mo<sub>128</sub>Eu<sub>4</sub>O<sub>388</sub>H<sub>10</sub>(H<sub>2</sub>O)<sub>81</sub>]<sub>2</sub>]<sup>20-</sup>, a Giant-Cluster Dimer (C) 2805
- Mo<sup>V</sup>/Pyrophosphate Polyoxometalate: An Inorganic Cryptate (C) 2808
- Paramagnetic Keplerate "Necklaces" Synthesized by a Novel Room-Temperature Solid-State Reaction: Controlled Linking of Metal-Oxide-Based Nanoparticles (C) 579
- Photochemical Formation of Tire-Shaped Molybdenum Blues: Topology of a Defect Anion, [Mo<sub>142</sub>O<sub>432</sub>H<sub>28</sub>(H<sub>2</sub>O)<sub>58</sub>]<sup>12-</sup> (C) 466
- P<sub>2</sub>-Ligand Complexes as Building Blocks for the Formation of One-Dimensional Polymers (C) 783
- [ε-PMo<sub>12</sub>O<sub>36</sub>(OH)<sub>4</sub>[La(H<sub>2</sub>O)<sub>4</sub>]<sub>4</sub>]<sup>5+</sup>: The First ε-PMo<sub>12</sub>O<sub>40</sub> Keggin Ion and Its Association with the Two-Electron-Reduced α-PMo<sub>12</sub>O<sub>40</sub> Isomer (C) 2398
- Polyoxomolybdenum(V) Sulfite Complexes: Synthesis, Structural, and Physical Studies (C) 2801
- Stereoselective Cyclopolymerization of 1,6-Heptadiynes: Access to Alternating *cis-trans*-1,2-(Cyclopent-1-enylene)vinylenes by Fine-Tuning of Molybdenum Imidoalkylidenes (C) 4044
- The First Polymer-Supported and Recyclable Chiral Catalyst for Enantioselective Olefin Metathesis (C) 589
- Towards Main-Chain-Polyoxometalate-Containing Hybrid Polymers: A Highly Efficient Approach to Bifunctionalized Organoimido Derivatives of Hexamolybdates (C) 4129
- *trans*-Addition of Two Carbon Substituents across a Benzene Double Bond in [(η<sup>6</sup>-Benzene)Mo(CO)<sub>3</sub>] (C) 4577

## Monoclonal antibodies

- Proof of Principle in the Selective Treatment of Cancer by Antibody-Directed

Enzyme Prodrug Therapy: The Development of a Highly Potent Prodrug (C) 759

## Monolayers

- Arrays of Chemomechanically Patterned Patches of Homogeneous and Mixed Monolayers of 1-Alkenes and Alcohols on Single Silicon Surfaces (C) 2353
- Attachment of Molecules at a Molecular Printboard by Multiple Host-Guest Interactions (C) 4467
- Carbohydrate Arrays as Tools for Glycomics (H) 3583
- Light-Controlled Nitric Oxide Generation from a Novel Self-Assembled Monolayer on a Gold Surface (C) 1914
- Magnetization of Chiral Monolayers of Polypeptide: A Possible Source of Magnetism in Some Biological Membranes (C) 761
- Monodisperse Surface Micelles of Nonpolar Amphiphiles in Langmuir Monolayers (C) 4331
- Spatially Directed Protein Adsorption by Using a Novel, Nanoscale Surface Template (C) 4303
- The Genesis of Molecular Electronics (R) 4378
- Using Mass Spectrometry to Characterize Self-Assembled Monolayers Presenting Peptides, Proteins, and Carbohydrates (C) 4715
- Voltage-Driven Changes in Molecular Dipoles Yield Negative Differential Resistance at Room Temperature (C) 827

## Monorganotin acids

- X-Ray Structural Characterization of a Monoorganotin Acid (C) 1365

## Morphosynthesis

- Synthesis of Very Thin 1D and 2D CdWO<sub>4</sub> Nanoparticles with Improved Fluorescence Behavior by Polymer-Controlled Crystallization (C) 2356

## Mössbauer spectroscopy

- Solvothermal Synthesis, Crystal Structure, Thermal Stability, and Mössbauer Spectroscopic Investigation of the Mixed-Valent Thioantimonate(III,V) [Ni(dien)<sub>2</sub>]<sub>2</sub>Sb<sub>4</sub>S<sub>9</sub> (C) 4487

## MRI

- Dendritic Polymers in Biomedical Applications: From Potential to Clinical Use in Diagnostics and Therapy (M) 1329

## Multicentered bonds

- A Planar, Aromatic *bicyclo*-Tetraborane(4) (C) 1529
- Aromatic Boranes with Planar-Tetra-coordinate Boron Atoms and Very Short B-B Distances (C) 1526
- Triboracyclopropanes: Two-Electron Double Aromatic Compounds with Very Short B-B Distances (C) 3380

## Multicomponent reactions

- A Five-Component Synthesis of Hexa-substituted Benzene (C) 4291
- An Asymmetric Cyanation Reaction and Sequential Asymmetric Cyanation-Nitroaldol Reaction Using a [YLi<sub>3</sub>[tris(bis-naphthoxide)]] Single Catalyst Component: Catalyst Tuning with Achiral Additives (C) 3636
- Convergent Synthesis of Silylated Allylic Alcohols by a Stereoselective Domino, Sequential Radical-Coupling Reaction (C) 1407
- Synthesis of Furoquinolines by a Multicomponent Domino Process (C) 3633

## Multielectron storage

- Ruthenium Photocatalysts Capable of Reversibly Storing up to Four Electrons



- in a Single Acceptor Ligand: A Step Closer to Artificial Photosynthesis (C) 3185
- Multiple bonds**
- Cubane with a Handle:  $[[\text{In}_3\text{As}_4\text{Nb}]\text{As}]^{7-}$  in  $\text{Cs}_7\text{NbIn}_3\text{As}_5$  (C) 1232
  - Formation and Characterization of the First Monoalumoxane,  $\text{LAIO} \cdot \text{B}(\text{C}_6\text{F}_5)_3$  (C) 4294
  - $[[\text{Li}(\text{thf})_3]_2\text{Ga}_2[\text{As}(\text{SiPr}_3)_4]\text{A}]$  Compound with Gallium–Arsenic Double Bonds (C) 2095
  - Synthesis and Characterization of a Digermanium Analogue of an Alkyne (C) 1785
  - Synthesis and Structure of  $(\text{MeN})\text{Ph}_2\text{S}=\text{C}=\text{SPh}_2(\text{NMe})$  (C) 2576
  - Synthesis and Structure of the First Stable Phosphabismuthene (C) 139
  - The Elusive Terminal Imido of Manganese(v) (C) 3591
- Mutagenesis**
- A (6-4) Photolyase Model: Repair of DNA (6-4) Lesions Requires a Reduced and Deprotonated Flavin (C) 767
  - Fapy·dA Induces Nucleotide Misincorporation Translesionally by a DNA Polymerase (C) 771
- Mutagenesis**
- Fluorobalhimycin—A New Chapter in Glycopeptide Antibiotic Research (C) 3383
- Mutations**
- Tuning PCR Specificity by Chemically Modified Primer Probes (C) 4766
- 
- NAD**
- Selective Complexation of *N*-Alkylpyridinium Salts: Recognition of  $\text{NAD}^+$  in Water (C) 1355
- Nanocasting**
- Taking Nanocasting One Step Further: Replicating CMK-3 as a Silica Material (C) 3489
- Nanomaterials**
- Oxidic Nanotubes and Nanorods—Anisotropic Modules for a Future Nanotechnology (R) 2446
- Nanoparticles**
- Au-Nanoparticle Nanowires Based on DNA and Polylysine Templates (C) 2323
  - Diffusion-Limited, Aggregation-Based, Mesoscopic Assembly of Roughened Core–Shell Bimetallic Nanoparticles into Fractal Networks at the Air–Water Interface (C) 1040
  - Electrochemical Modulation of Fluorophore Emission on a Nanostructured Gold Film (C) 2764
  - Naked-Eye Sensitive Detection of Immunoglobulin G by Enlargement of Au Nanoparticles In Vitro (C) 2176
  - Probing the Spatial Distribution and Morphology of Supported Nanoparticles Using Rutherford-Scattered Electron Imaging (C) 3804
  - Sensitized Luminescence of Trivalent Europium by Three-Dimensionally Arranged Anatase Nanocrystals in Mesoporous Titania Thin Films (C) 959
  - Synthesis and Structures of Silver–Selenide Cluster Complexes  $[\text{Ag}_4(\text{SeiPr})_4(\text{dppm})_2]$ ,  $[\text{Ag}_8(\text{SeEt})_8(\text{dppp})]_\infty$ ,  $[\text{Ag}_{28}\text{Se}_6(\text{SenBu})_{16}(\text{dppp})_4]$ , and  $[\text{Ag}_{124}\text{Se}_{57}(\text{SePrBu}_2)_4\text{Cl}_6(\text{tBu}_2\text{P}(\text{CH}_2)_3\text{PrBu}_2)_{12}]$  (C) 300
  - Synthesis of Very Thin 1D and 2D  $\text{CdWO}_4$  Nanoparticles with Improved Fluorescence Behavior by Polymer-Controlled Crystallization (C) 2356
- Nanoribbons**
- Photochemical Sensing of  $\text{NO}_2$  with  $\text{SnO}_2$  Nanoribbon Nanosensors at Room Temperature (C) 2405
- Nanorods**
- Oxidic Nanotubes and Nanorods—Anisotropic Modules for a Future Nanotechnology (R) 2446
- Nanostructures**
- A Cucurbituril-Based Gyroscane: A New Supramolecular Form (C) 275
  - A Nanoporous Metal–Organic Framework Based on Bulky Phosphane Ligands (C) 764
  - Assembly of a Nanoscale Chiral Ball through Supramolecular Aggregation of Bowl-Shaped Triangular Helicates (C) 4244
  - Au-Nanoparticle Nanowires Based on DNA and Polylysine Templates (C) 2323
  - Changeable Pore Sizes Allowing Effective and Specific Recognition by a Molybdenum-Oxide Based “Nanosponge”: En Route to Sphere-Surface and Nanoporous-Cluster Chemistry (C) 3604
  - Controlled Hierarchical Self-Assembly and Deposition of Nanoscale Photonic Materials (C) 2117
  - Creation of a Unique Self-Supported Pattern of Radially Aligned Semiconductor  $\text{Ag}_2\text{S}$  Nanorods (C) 1932
  - Crystal Engineering of a Nanoscale Kagomé Lattice (C) 2821
  - Direct Assembly of Large Arrays of Oriented Conducting Polymer Nanowires (C) 3665
  - Enhanced Luminescence and Photomagnetic Properties of Surface-Modified  $\text{EuO}$  Nanocrystals (C) 2073
  - Fabrication of a Metal-Coated Three-Dimensionally Ordered Macroporous Film and its Application as a Refractive Index Sensor (C) 1153
  - Fabrication of Ultrafine Conducting Polymer and Graphite Nanoparticles (C) 4016
  - Formation of High-Quality CdS and Other II–VI Semiconductor Nanocrystals in Noncoordinating Solvents: Tunable Reactivity of Monomers (C) 2368
  - From Self-Organizing Polymers to Nanohybrid and Biomaterials (R) 688
  - From Surfactant–Inorganic Mesoporous Structures to Tungsten Nanowires (C) 333
  - General Synthesis of Semiconductor Chalcogenide Nanorods by Using the Monodentate Ligand *n*-Butylamine as a Shape Controller (C) 4697
  - Icosahedral  $\text{W}_{40}\text{Au}_{12}$ : A Predicted Closed-Shell Species, Stabilized by Auophilic Attraction and Relativity and in Accord with the 18-Electron Rule (C) 2174
  - Immobilized Highly Charged Colloidal Crystals: A New Route to Three-Dimensional Mesoscale Structured Materials (C) 102
  - Inorganic Chemistry Goes Protein Size: A  $\text{Mo}_{368}$  Nano-Hedgehog Initiating Nanochemistry by Symmetry Breaking (C) 1162
  - Irreversible Adsorption of Cellobiose, Ascorbic Acid, and Tyrosine to Hydrophobic Surfaces in Water and Their Separation by Molecular Stirring (C) 2730
  - Ligand Design and Bioconjugation of Colloidal Gold Nanoparticles (C) 3218
  - Micelles and Hollow Nanospheres Based on  $\epsilon$ -Caprolactone-Containing Polymers in Aqueous Media (C) 2950
  - Micro/Nanoengineering of the Self-Organized Three-Dimensional Fibrous Structure of Functional Materials (C) 3641 Corrigendum: 4610
  - “Molecular Symmetry Breakers” Generating Metal-Oxide-Based Nanoobject Fragments as Synthons for Complex Structures:  $[\{\text{Mo}_{128}\text{Eu}_4\text{O}_{388}\text{H}_{10}(\text{H}_2\text{O})_{81}\}_2]^{20-}$ , a Giant-Cluster Dimer (C) 2805
  - Multiple Emissions from 1,3-Diphenyl-5-pyrenyl-2-pyrazoline Nanoparticles: Evolution from Molecular to Nanoscale to Bulk Materials (C) 962
  - Nanomechanical Devices Based on DNA (H) 3779
  - Nanoscopic Pt Colloids in the “Embryonic State” (C) 4041
  - Nanotubes of Group 4 Metal Disulfides (C) 3451
  - Novel Capsules with High Stability and Controlled Permeability by Hierarchic Templating (C) 4019
  - Nucleation of MCM-41 Nanoparticles by Internal Reorganization of Disordered and Nematic-Like Silica–Surfactant Clusters (C) 2151
  - Ordered Langmuir–Blodgett Films of Amphiphilic  $\beta$ -Hairpin Peptides Imaged by Atomic Force Microscopy (C) 127
  - Perfectly Straight Nanostructures of Metallosupramolecular Coordination-Polyelectrolyte Amphiphile Complexes on Graphite (C) 3681
  - Photochemical Formation of Tire-Shaped Molybdenum Blues: Topology of a Defect Anion,  $[\text{Mo}_{142}\text{O}_{432}\text{H}_{28}(\text{H}_2\text{O})_{58}]^{12-}$  (C) 466
  - Photochemical Sensing of  $\text{NO}_2$  with  $\text{SnO}_2$  Nanoribbon Nanosensors at Room Temperature (C) 2405
  - Planar Hypercoordinate Carbons Joined: Wheel-Shaped Molecules with C–C Axles (C) 4082
  - Probing Fast Facilitated Ion Transfer across an Externally Polarized Liquid–Liquid Interface by Scanning Electrochemical Microscopy (C) 3445
  - Rapid Phase Fluxionality as the Determining Factor in Activity and Selectivity of Highly Dispersed,  $\text{Rh}/\text{Al}_2\text{O}_3$  in  $\text{deNO}_x$  Catalysis (C) 2587
  - Rigid Lipid Membranes and Nanometer Clefts: Motifs for the Creation of Molecular Landscapes (R) 1828
  - Self-Assembled, Deterministic Carbon Nanotube Wiring Networks (C) 353
  - Self-Assembly of  $\text{ZnO}$ : From Nanodots to Nanorods (C) 1188
  - Semiconductor Nanohelices Templated by Supramolecular Ribbons (C) 1705
  - Shape Control of Thermodynamically Stable Cobalt Nanorods through Organometallic Chemistry (C) 4286
  - Spatially Directed Protein Adsorption by Using a Novel, Nanoscale Surface Template (C) 4303
  - Super-Hydrophobic Surface of Aligned Polyacrylonitrile Nanofibers (C) 1221
  - Supramolecular Organization of Oligopeptides, through Complexation with Surfactants (C) 2957

- Synthesis and Characterization of Lanthanide Hydroxide Single-Crystal Nanowires (C) 4790
- Synthesis of Metal Nanoparticles by Using Polyoxometalates as Photocatalysts and Stabilizers (C) 1911
- Tuning the Electrical Conductivity and Self-Assembly of Regioregular Polythiophene by Block Copolymerization: Nanowire Morphologies in New Di- and Triblock Copolymers (C) 329
- Ultrastable and Highly Acidic, Zeolite-Coated Mesoporous Aluminosilicates (C) 1036
- Vesicular Nanostructures Prepared by Reactive Melt Blending (C) 2154
- Water-Soluble Stimuli-Responsive Vesicles from Peptide-Based Diblock Copolymers (C) 1339
- Nanotechnology
  - Chain Compounds Based on Transition Metal Backbones: New Life for an Old Topic (H) 4453
  - Low-Temperature Synthesis of Single-Crystal Germanium Nanowires by Chemical Vapor Deposition (C) 4783
  - Nano- and Micropatterning by Organic-Inorganic Templating of Hierarchical Self-Assembled Structures (H) 3359
  - New Methods for Proteomic Research: Preparation of Proteins with N-Terminal Cysteines for Labeling and Conjugation (C) 2171
  - Structural Analysis of  $C_{60}$  Trimers by Direct Observation with Scanning Tunneling Microscopy (C) 969
- Nanotubes
  - A One-Dimensional  $BaI_2$  Chain with Five- and Six-Coordination, Formed within a Single-Walled Carbon Nanotube (C) 1156
  - Chiral Templating of Silica-Lipid Lamellar Mesophase with Helical Tubular Architecture (C) 2988
  - 7-Deaza-2'-deoxyxanthosine Dihydrate Forms Water-Filled Nanotubes with C-H...O Hydrogen Bonds (C) 603
  - Electrochemical Modification of Single Carbon Nanotubes (C) 1353
  - Functionalization of Single-Walled Carbon Nanotubes (M) 1853
  - Nanotubes of Group 4 Metal Disulfides (C) 3451
  - Oxidic Nanotubes and Nanorods—Anisotropic Modules for a Future Nanotechnology (R) 2446
  - Self-Assembled, Deterministic Carbon Nanotube Wiring Networks (C) 353
  - Self-Assembling Organic Nanotubes from Enantiopure Cyclo- $N,N'$ -Linked Oligoureas: Design, Synthesis, and Crystal Structure (C) 1895
  - Starched Carbon Nanotubes (C) 2508
- Nanowires
  - Au-Nanoparticle Nanowires Based on DNA and Polylysine Templates (C) 2323
  - Low-Temperature Synthesis of Single-Crystal Germanium Nanowires by Chemical Vapor Deposition (C) 4783
  - Photochemical Sensing of  $NO_2$  with  $SnO_2$  Nanoribbon Nanosensors at Room Temperature (C) 2405
- Naphthalenes
  - A Highly Regioselective Synthesis of Polysubstituted Naphthalene Derivatives through Gallium Trichloride Catalyzed Alkyne-Aldehyde Coupling (C) 2138
- Natural products
  - A Biomimetically Inspired Synthesis of the Dehydropiperidine Domain of Thio-strepton (C) 1941
  - A Cascade Cycloaddition Strategy Leading to the Total Synthesis of (–)-FR182877 (C) 1787
  - A Combined Intramolecular Diels–Alder/Intramolecular Schmidt Reaction: Formal Synthesis of (±)-Stenine (C) 4316
  - A Concise Formal Total Synthesis of (±)-Strychnine by Using a Transannular Inverse-Electron-Demand Diels–Alder Reaction of a [3](1,3)Indolo[3](3,6)pyridazinophane (C) 3261
  - Actin-Binding Marine Macrolides: Total Synthesis and Biological Importance (R) 4632
  - A Highly Efficient and Flexible Synthesis of Substituted Carbazoles by Rhodium-Catalyzed Inter- and Intramolecular Alkyne Cyclotrimerizations (C) 3281
  - Akashins A, B, and C: Novel Chlorinated Indigoglycosides from *Streptomyces* sp. GW 48/1497 (C) 597
  - An Efficient Enantioselective Synthesis of (–)-Galanthamine (C) 2795
  - A New Synthesis Route to Enantiomerically Pure Jasmonoids (C) 4054
  - A Stereoselective Route to Guanacastepene A through a Surprising Epoxidation (C) 2188
  - Asymmetric Syntheses of Pectenotoxins-4 and -8, Part II: Synthesis of the C20–C30 and C31–C40 Subunits and Fragment Assembly (C) 4573
  - Asymmetric Syntheses of Pectenotoxins-4 and -8, Part I: Synthesis of the C1–C19 Subunit (C) 4569
  - A Synthetic Approach towards the C1–C9 Subunit of Zincophorin (C) 2144
  - Callipeltoside A: Assignment of Absolute and Relative Configuration by Total Synthesis (C) 841
  - Concise and Efficient Total Synthesis of *Lycopodium* Alkaloid Magellanine (C) 4090
  - Concise Enantioselective Synthesis of (+)-FR66979 and (+)-FR900482: Dime-thyldioxirane-Mediated Construction of the Hydroxylamine Hemiketal (C) 4683
  - Concise Total Synthesis of (–)-Fron-dosin B Using a Novel Palladium-Catalyzed Cyclization (C) 1569
  - Cyclization of (–)-Pregaliellalactone in the Fungus *Galiella rufa* (C) 2158
  - Enantiospecific Synthesis of the Bridged Pyrrolizidine Core of Asparagamine A: Dipolar Cycloadditions of Azomethine Ylides Derived from the Sulfonylation of Vinyllogous Amides. (C) 1778
  - Facile Construction of *N*-Hydroxybenzazocine: Enantioselective Total Synthesis of (+)-FR900482 (C) 4686
  - From Protein Domains to Drug Candidates—Natural Products as Guiding Principles in the Design and Synthesis of Compound Libraries (R) 2878
  - Highly Selective Formation of Eight-Membered-Ring Systems by Oxidative Cyclization with Molybdenum Pentachloride—An Environmentally Friendly and Inexpensive Access to 2,2'-Cyclo-lignans (C) 2981
  - Model Studies Towards Azadirachtin: Part 1. Construction of the Crowded C8–C14 Bond by Radical Chemistry (C) 2103
  - Model Studies Towards Azadirachtin: Part 2. Construction of the Crowded C8–C14 Bond by Transition Metal Chemistry (C) 2107
  - Natural Product Derived Receptor Tyrosine Kinase Inhibitors: Identification of IGF1R, Tie-2, and VEGFR-3 Inhibitors (C) 1174
  - Natural Products Are Biologically Validated Starting Points in Structural Space for Compound Library Development: Solid-Phase Synthesis of Dysidiolide-Derived Phosphatase Inhibitors (C) 307
  - Stereoccontrolled Synthesis of the Quin-aldic Acid Macrocyclic System of Thio-strepton (C) 1937
  - Stereoccontrolled Total Synthesis of Api-cularen A and Its  $\Delta^{17,18}$  Z Isomer (C) 3701
  - Stereoselective Total Synthesis of Epo-thilones by the Metathesis Approach Involving C9–C10 Bond Formation (C) 1381
  - Stereoselective Total Synthesis of Muco-cin, an Antitumor Agent (C) 4751
  - Structure and Synthesis of the Natural Heptachloro-1'-methyl-1,2'-bipyrrrole (Q1) (C) 1740
  - Synthesis of the Functionalized Tricyclic Skeleton of Guanacastepene A: A Tandem Epoxide-Opening  $\beta$ -Elimination/Knoevenagel Cyclization (C) 2185
  - Synthesis of the Protein Phosphatase 2A Inhibitor (4S,5S,6S,10S,11S,12S)-Cytos-tatin (C) 1748
  - The Core Structure of TMC-95A Is a Promising Lead for Reversible Protea-some Inhibition (C) 780
  - The CP Molecule Labyrinth: A Para-digm of How Endeavors in Total Synthesis Lead to Discoveries and Inven-tions in Organic Synthesis (R) 2678
  - The Diazonamides: The Plot Thickens (H) 2489
  - The Total Synthesis of Coleopho-mones B and C (C) 3276
  - Total Synthesis of Ambruticin (C) 176
  - Total Synthesis of Amphidinolide T4 (C) 4763
  - Total Synthesis of Diazonamide A (C) 3495
  - Total Synthesis of (±)-FR66979 (C) 4688
  - Total Synthesis of Leucascandrolide A (C) 4098
  - Total Synthesis of (±)-Otteliones A and B (C) 2396
  - Total Synthesis of (+)-Pamamycin-607 (C) 1392
  - Total Synthesis of Polypephalin C and Determination of the Absolute Config-urations at the 3'',4'' Ring Junction (C) 2786
  - Total Synthesis of the Natural Enantio-mer of (–)-Lepadiformine and Determination of Its Absolute Stereochemistry (C) 3017
  - Total Synthesis of Woodrosin I (C) 2097
  - Total Synthesis of (±)-Wortmannin (C) 4680
- Nef reaction
  - The Total Synthesis of (–)-Amathaspir-amide F (C) 4556
- Neodymium
  - Pyrazolate Coordination Continues To Amaze—The New  $\mu-\eta^2:\eta^1$  Binding Mode and the First Case of Unidentate Coordination to a Rare Earth Metal (C) 3249
- Neuromuscular blockers
  - A Novel Concept of Reversing Neuro-muscular Block: Chemical Encapsula-tion of Rocuronium Bromide by a Cyclo-dextrin-Based Synthetic Host (C) 265
- N-Glycans
  - Efficient Solid-Phase Synthesis of a Complex, Branched N-Glycan Hexasac-charide: Use of a Novel Linker and

- Temporary-Protecting-Group Pattern (C) 4489
- Nickel
- An Umpolung Approach to *cis*-Hyponitrite Complexes (C) 2371
  - Asymmetric Hydrovinilation: New Perspectives through Use of Modular Ligand Systems (H) 3775
  - A Three-Dimensional Homometallic Molecular Ferrimagnet (C) 1561
  - Carbon–Carbon Double-Bond Formation from the Reaction of Organozinc Reagents with Aldehydes Catalyzed by a Nickel(II) Complex (C) 2757 Corrigendum: 4170
  - Characterization of C<sub>2</sub> (C<sub>4</sub>H<sub>6</sub>) Intermediates from Adsorption and Decomposition of Methane on Supported Metal Catalysts by in situ INS Vibrational Spectroscopy (C) 144
  - [(C<sub>6</sub>H<sub>4</sub>S<sub>2</sub>)Ni(μ-S<sub>3</sub>)Fe(CO)(PMe<sub>3</sub>)<sub>2</sub>]: A Dinuclear [NiFe] Complex Modeling the [(RS)<sub>2</sub>Ni(μ-SR)<sub>2</sub>Fe(CO)(L)<sub>2</sub>] Core of [NiFe] Hydrogenase Centers (C) 632
  - Crystal-to-Crystal Sliding of 2D Coordination Layers Triggered by Guest Exchange (C) 3395
  - Formation of a Butadienenickel-Based Zwitterionic Single-Component Catalyst for Ethylene Polymerization: An Alternative Activation Pathway for Homogeneous Ziegler–Natta Catalysts of Late Transition Metals (C) 2543
  - Hybrid Metallocorates or One-Dimensional Oxo-Bridged Metal Strings by Self-Assembly—Coordination Number Controlled Product Formation (C) 304
  - In Situ Enzymatic Screening (ISES): A Tool for Catalyst Discovery and Reaction Development (C) 1603
  - Open-Framework Nickel Succinate, [Ni<sub>7</sub>(C<sub>4</sub>H<sub>4</sub>O<sub>6</sub>)<sub>6</sub>(OH)<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>] · 2H<sub>2</sub>O: A New Hybrid Material with Three-Dimensional Ni–O–Ni Connectivity (C) 457
  - Protein Affinity Labeling Mediated by Genetically Encoded Peptide Tags (C) 356
  - Remarkably High 1,5-Diastereoselectivity in a Nickel-Catalyzed Conjugate Addition of Me<sub>2</sub>Zn and Carbonyl Compounds to 1,ω-Dienynes with Through-Space Coupling (C) 2784
  - Selective α-Carbon Hydroxylation of Glycine in Nickel(II)–Cyclotetrapeptide Complexes by Oxygen (C) 1879
  - Synthesis and Characterization of Ag<sub>2</sub>NiO<sub>2</sub> Showing an Uncommon Charge Distribution (C) 643
  - Tuning Electronic Behavior of Carbonyl Metal Clusters by Substitution of Interstitial and Capping Atoms (C) 3685
  - Wet Chemistry Synthesis of β-Nickel Aluminide NiAl (C) 599
- Niobium
- Dinitrogen-Bond Cleavage in a Niobium Complex Supported by a Tridentate Aryloxide Ligand (C) 2792
  - Two [Nb<sub>6</sub>Cl<sub>6</sub>O<sub>3</sub>(CN)<sub>6</sub>]<sup>5-</sup> Isomer Anions in Two Nb<sub>6</sub> Cluster Oxyhalides: Cs<sub>3</sub>[Nb<sub>6</sub>Cl<sub>6</sub>O<sub>3</sub>(CN)<sub>6</sub>] · 4H<sub>2</sub>O and (Me<sub>4</sub>N)<sub>5</sub>[Nb<sub>6</sub>Cl<sub>6</sub>O<sub>3</sub>(CN)<sub>6</sub>] · 5H<sub>2</sub>O (C) 3002
- Nitrates
- A Selective Chromogenic Reagent for Nitrate (C) 1416
- Nitrenes
- 2,3,5,6-Tetrafluorophenylnitren-4-yl: A Quartet-Ground-State Nitrene Radical (C) 2742
- Nitrides
- Dinitrogen-Bond Cleavage in a Niobium Complex Supported by a Tridentate Aryloxide Ligand (C) 2792
  - High-Pressure Syntheses of Novel Binary Nitrogen Compounds of Main Group Elements (M) 77
  - Hydroboration of Coordinated Dinitrogen: A New Reaction for the N<sub>2</sub> Ligand that Results in Its Functionalization and Cleavage (C) 3709
  - Na<sub>3</sub>N—An Original Synthetic Route for a Long Sought After Binary Nitride (H) 1701
  - Nitridoborates of the Lanthanides: Synthesis, Structure Principles, and Properties of a New Class of Compounds (R) 3322
  - Sr<sub>4</sub>N<sub>3</sub>: A Hitherto Missing Member in the Nitrogen Pressure Reaction Series Sr<sub>2</sub>N → Sr<sub>4</sub>N<sub>3</sub> → SrN → SrN<sub>2</sub> (C) 2288
  - Synthesis and Structure of Na<sub>3</sub>N (C) 1755
- Nitridoborates
- Nitridoborates of the Lanthanides: Synthesis, Structure Principles, and Properties of a New Class of Compounds (R) 3322
- Nitrile oxides
- Novel Ene-Like Cycloisomerization Reaction of Nitrile Oxides with a Tethered Allyltrimethylsilyl Group (C) 1586
- Nitriles
- A Breathing Ionic Crystal Displaying Selective Binding of Small Alcohols and Nitriles: K<sub>3</sub>[Cr<sub>3</sub>O(OOCH)<sub>6</sub>(H<sub>2</sub>O)<sub>3</sub>][α-SiW<sub>9</sub>O<sub>40</sub>] · 16H<sub>2</sub>O (C) 2814
  - Pd<sup>II</sup>-Catalyzed Cyclization of Alkynes Containing Aldehyde, Ketone, or Nitrile Groups Initiated by the Acetoxypalladation of Alkynes (C) 4343
  - Rhenium(VII) Oxo Complexes as Extremely Active Catalysts in the Dehydration of Primary Amides and Aldoximes to Nitriles (C) 2983
- Nitroaldol reaction
- A Dinuclear Zn Catalyst for the Asymmetric Nitroaldol (Henry) Reaction (C) 861
- Nitroalkenes
- Synthesis of *cis,cis,cis,cis*-[5.5.5.5]-1-Aza-fenestrane (C) 4122
- Nitrogen
- Charge-Density Study of Methane Di(triimido)sulfonic Acid H<sub>2</sub>C[S(NiBu)<sub>2</sub>(NHtBu)]<sub>2</sub>—the NR Analogue of H<sub>2</sub>C[S(O)<sub>2</sub>(OH)]<sub>2</sub> (C) 2079
  - Experimental Detection of the Pentaazacyclopentadienide (Pentazolate) Anion, *cyclo*-N<sub>5</sub><sup>-</sup> (C) 3051
  - High-Pressure Syntheses of Novel Binary Nitrogen Compounds of Main Group Elements (M) 77
- Nitrogen fixation
- A Highly Reactive Uranium Complex Supported by the Calix[4]tetrapyrrole Tetraanion Affording Dinitrogen Cleavage, Solvent Deoxygenation, and Polysilanol Depolymerization (C) 3433
  - Dinitrogen-Bond Cleavage in a Niobium Complex Supported by a Tridentate Aryloxide Ligand (C) 2792
  - Hydroboration of Coordinated Dinitrogen: A New Reaction for the N<sub>2</sub> Ligand that Results in Its Functionalization and Cleavage (C) 3709
- Nitrogen heterocycles
- A Click Chemistry Approach to Tetrazoles by Huisgen 1,3-Dipolar Cycloaddition: Synthesis of 5-Acyltetrazoles from Azides and Acyl Cyanides (C) 2113
  - A Click Chemistry Approach to Tetrazoles by Huisgen 1,3-Dipolar Cycloaddition: Synthesis of 5-Sulfonyl Tetrazoles from Azides and Sulfonyl Cyanides (C) 2110
  - Addition of Ureas to Arynes: Straightforward Synthesis of Benzodiazepine and Benzodiazocine Derivatives (C) 3247
  - A Highly Efficient and Flexible Synthesis of Substituted Carbazoles by Rhodium-Catalyzed Inter- and Intramolecular Alkyne Cyclotrimerizations (C) 3281
  - α-Lithiation of 1-Aryl-3,3-dialkyltriazenes and Intramolecular Conversion to Benzylamine and Tetrahydrobenzotriazine Derivatives (C) 484
  - An Azulene Analogue of the Tripyranes and Carbaporphyrinoids Therefrom (C) 1371
  - A New Trend in Phenalenyl Chemistry: A Persistent Neutral Radical, 2,5,8-Tri-*tert*-butyl-1,3-diazaphenalenyl, and the Excited Triplet State of the Gable *syn*-Dimer in the Crystal of Column Motif (C) 1793
  - A Stepwise Huisgen Cycloaddition Process: Copper(I)-Catalyzed Regioselective “Ligation” of Azides and Terminal Alkynes (C) 2596
  - Catalytic Asymmetric 1,3-Dipolar Cycloaddition Reactions of Azomethine Ylides—A Simple Approach to Optically Active Highly Functionalized Proline Derivatives (C) 4236
  - [Co<sub>5</sub>(im)<sub>10</sub> · 2MB]<sub>∞</sub>: A Metal–Organic Open-Framework with Zeolite-Like Topology (C) 1384
  - 7-Deaza-2'-deoxyxanthosine Dihydrate Forms Water-Filled Nanotubes with C–H...O Hydrogen Bonds (C) 603
  - Dynamic Kinetic Resolution and Desymmetrization of Enantiotopic Groups by Cyclodehydration of Racemic or Prochiral δ-Oxoesters with (*R*)-Phenylglycinol: Enantioselective Synthesis of Piperidines (C) 335
  - Exceptional Rate Enhancements and Improved Diastereoselectivities through Chelating Diamide Coordination in Intramolecular Alkene Hydroaminations Catalyzed by Yttrium and Neodymium Amido Complexes (C) 3645 Corrigendum: 4170
  - Intramolecular [3 + 2] Cycloaddition of a Nitrilium Phosphate Ylide Complex to the *P*-Phenyl Group of a Wittig Ylide (C) 1186
  - Ones, Thiones, and *N*-Oxides: An Exercise in Imidazole Chemistry (C) 2290
  - Regiospecific Inverse-Electron-Demand Diels–Alder Reaction of Simultaneously Electrogenated Diene and Dienophile: An Expeditious Route to Polyfunctionalized 1,4-Benzoxazine Derivatives (C) 824
  - Remarkably Stable Tetrahedral Intermediates: Carbinols from Nucleophilic Additions to *N*-Acylpyrroles (C) 3188
  - Sequential Base-Promoted Annulation/Palladium-Catalyzed Domino 1,5-Enyne Arylation and Vinylation of α-Propargylaminohydrazones (C) 1400
  - Structure and Synthesis of the Natural Heptachloro-1'-methyl-1,2'-bipyrrrole (Q1) (C) 1740
  - Synthesis of Furoquinolines by a Multicomponent Domino Process (C) 3633
  - Synthetic Studies on the Sulfur-Cross-Linked Core of Antitumor Marine Al-

- kaloid, Discorhabdins: Total Synthesis of Discorhabdin A (C) 348
- The Rational Design of Anion Host Compounds: An Exercise in Subtle Energetics (C) 104
  - Titanium-Promoted Stereoselective Synthesis of Hydroindolones from *p*-Quinamines by Domino Conjugate Additions (C) 2753
  - Traube's "Oxazomalonic Acid" is a 3-Hydroxysydnone Carboxylate with an *E*-ONNO Geometry (C) 2089
- Nitrogen oxides
- An Umpolung Approach to *cis*-Hyponitrite Complexes (C) 2371
  - Hexagonal and Cubic Thermally Stable Mesoporous Tin(IV) Phosphates with Acidic and Catalytic Properties (C) 1594
  - Light-Controlled Nitric Oxide Generation from a Novel Self-Assembled Monolayer on a Gold Surface (C) 1914
  - Noncovalent Chemistry of Nitrous Oxide: Interactions with Secondary *cis* Amides in Solution (C) 3854
  - Photochemical Sensing of NO<sub>2</sub> with SnO<sub>2</sub> Nanoribbon Nanosensors at Room Temperature (C) 2405
  - The First Non-Heme Iron(III) Complex with a Ligated Carboxamido Group That Exhibits Photolability of a Bound NO Ligand (C) 2512
  - Traube's "Oxazomalonic Acid" is a 3-Hydroxysydnone Carboxylate with an *E*-ONNO Geometry (C) 2089
- Nitro group
- General Preparation of Functionalized *o*-Nitroarylmagnesium Halides through an Iodine–Magnesium Exchange (C) 1610
- Nitrones
- Samarium Diodide-Induced Reductive Cross-Coupling of Nitrones with Aldehydes and Ketones (C) 1772
- Nitroso compounds
- Lewis Acid Promoted, O-Selective, Nucleophilic Addition of Silyl Enol Ethers to N=O bonds (C) 2986 Corrigendum: 3313
- N ligands
- A New Approach to Metalated Imido and Amido Tellurophosphoranes (C) 3468
  - A Practical and Highly Active Ruthenium-Based Catalyst that Effects the Cross Metathesis of Acrylonitrile (C) 4035
  - Assembly of a Face-to-Face Tetranuclear Copper(I) Complex as a Host for an Anthracene Guest (C) 975
  - Assembly of a Truncated-Tetrahedral Chiral [M<sub>12</sub>(μ-L)<sub>18</sub>]<sup>24+</sup> Cage (C) 2515
  - A Structural and Functional Model of Galactose Oxidase: Control of the One-Electron Oxidized Active Form through Two Differentiated Phenolic Arms in a Tripodal Ligand (C) 3047
  - A Structurally Characterized Chromium(III) Superoxide Complex Features "Side-on" Bonding (C) 2333
  - 1,2-Azaborolyls, Isoelectronic Analogues of the Ubiquitous Cyclopentadienyl Ligand: Synthesis of *B*-Heteroatom-Substituted 1,2-Azaborolyl Complexes and an Assessment of Their Electronic Features (C) 174
  - Bridging the Gap between Polyoxometalates and Classic Coordination Compounds: A Novel Type of Hexavanadate Complex (C) 2523
  - Crystal Engineering of Mixed-Metal Ru–Ag Coordination Networks by Using the *trans*-[RuCl<sub>2</sub>(pyz)<sub>2</sub>] (pyz = pyrazine) Building Block (C) 1907
  - Dioxygen Activation by a Mononuclear Ir<sup>III</sup>–Ethene Complex (C) 2135
  - Dynamic Acylhydrazones: Metal Ion Complex Libraries: A Mixed–Ligand Approach to Increased Selectivity in Extraction (C) 4096
  - Hydroxylation of N-Heterocycle Ligands Observed in Two Unusual Mixed-Valence Cu<sup>I</sup>/Cu<sup>II</sup> Complexes (C) 1029
  - IAN-Amines: Direct Entry to a Chiral C<sub>2</sub>-Symmetric Zirconium(IV) β-Diketimine Complex (C) 345
  - Ion-Pair-Mediated Asymmetric Synthesis of a Configurationally Stable Mononuclear Tris(diimine)–Iron(II) Complex (C) 2317
  - Methyleneimine CH<sub>2</sub>=NH as a Unidentate Ligand in Rhenium Complexes (C) 2192
  - Novel, Acentric Metal–Organic Coordination Polymers from Hydrothermal Reactions Involving In Situ Ligand Synthesis (C) 3800
  - [Os<sup>III</sup>(tpy)(Cl)(NCCH<sub>3</sub>)(NSAr)]: Reversible Reduction of Acetonitrile by Os<sup>III</sup>–Sulfilimido Complexes (C) 3870
  - Pd<sup>II</sup>-Catalyzed Cyclization of Alkynes Containing Aldehyde, Ketone, or Nitrile Groups Initiated by the Acetoxypalladation of Alkynes (C) 4343
  - Polymer-Supported C<sub>2</sub>-Symmetric Ligands for Palladium-Catalyzed Asymmetric Allylic Alkylation Reactions (C) 4691
  - Proton-Induced, Reversible Evolution of O<sub>2</sub> from the Os<sup>IV</sup>–Sulfoximido Complex [Os<sup>IV</sup>(tpy)(Cl)<sub>2</sub>(NS(O)-3,5-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>)] (C) 2330
  - Pyrazolate Coordination Continues To Amaze—The New μ-η<sup>2</sup>:η<sup>1</sup> Binding Mode and the First Case of Unidentate Coordination to a Rare Earth Metal (C) 3249
  - Pyrophosphate Detection in Water by Fluorescence Competition Assays: Inducing Selectivity through the Choice of the Indicator (C) 3811
  - Reaction of "[Mn<sup>II</sup>(CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>]" with Bidentate Diimine Ligands: From Simple Base Adducts to C–C Activation of the Ligand (C) 3025
  - Rearrangement of 3-Rhoda-1,2-dioxolanes to Rhodium Formylmethyl Hydroxy Complexes (C) 575
  - Ru<sup>II</sup> Complexes of "Large-Surface" Ligands (C) 4022
  - Searching for New Reactivity (Nobel Lecture) (R) 2024
  - Selective α-Carbon Hydroxylation of Glycine in Nickel(II)–Cyclotetrapeptide Complexes by Oxygen (C) 1879
  - Signal Amplification by a Fluorescent Indicator of a pH-Driven Intramolecular Translocation of a Copper(II) Ion (C) 2553
  - Supramolecular Templating of the Double-Cubane [(Cu<sub>3</sub>(Hpz<sup>Bu</sup>)<sub>6</sub>(μ<sub>3</sub>-Cl)(μ<sub>3</sub>-OH))<sub>3</sub>Cu]Cl<sub>6</sub> (Hpz<sup>Bu</sup> = 5-*tert*-Butylpyrazole) (C) 756
  - Synthesis and Stereoselective Self-Assembly of Double- and Triple-Stranded Helicates (C) 2086
  - Synthesis, Structure, and Molecular Orbital Calculations of Chromium(III) and Iron(III) Complexes Containing η<sup>2</sup>-Pyrazolato Ligands (C) 1591
  - Targeted Synthesis of Ferromagnetically Coupled Complexes with Modified 1,3,5-Trihydroxybenzene Ligands (C) 3823
  - Template-Directed Synthesis of Helical Phenanthroline Cyclophanes (C) 4520
  - The Extended Borinium Cation: [(tBu<sub>3</sub>PN)<sub>2</sub>B]<sup>+</sup> (C) 498
  - The First Non-Heme Iron(III) Complex with a Ligated Carboxamido Group That Exhibits Photolability of a Bound NO Ligand (C) 2512
- NMR spectroscopy
- A Four-Step Alternating Reductive Dimerization/Bond Cleavage of Indenocorannulene (C) 1712
  - Are Ate Complexes True Intermediates in Lithium–Metalloid Exchange? Subtle Effects of Ion-Pair Structure in Lithium–Tellurium and Lithium–Selenium Exchange Reactions (C) 3436
  - A Straightforward Detection of Deprotonated Conformers of Malonic Acid by Solid-State <sup>13</sup>C NMR Spectroscopy (C) 4743
  - A Straightforward NMR-Spectroscopy-Based Method for Rapid Library Screening (C) 3454
  - Cation Control in Functional Helical Programming: Structures of a D,L-Peptide Ion Channel (C) 4062
  - Characterization of Reactive Intermediates by Diffusion-Ordered NMR Spectroscopy: A Snapshot of the Reaction of <sup>13</sup>CO<sub>2</sub> with [Cp<sub>2</sub>Zr(Cl)H] (C) 107
  - *cis*-2-Aminocyclopentanecarboxylic Acid Oligomers Adopt a Sheetlike Structure: Switch from Helix to Nonpolar Strand (C) 1718
  - Controlled Release of a Dendritically Encapsulated Template Molecule (C) 3254
  - Conversion of *arachno*-Nonaborane into Azanonaborane: Unexpected Loss of a Firmly Integrated Boron Atom (C) 4498
  - De Novo Protein Surface Design: Use of Cation–π Interactions to Enhance Binding between an α-Helical Peptide and a Cationic Molecule in 50% Aqueous Solution (C) 117
  - De Novo Structure Determination from Residual Dipolar Couplings by NMR Spectroscopy (H) 437
  - Direct Evidence for the Nonrandom Nature of Al Substitution in Zeolite ZSM-5: An Investigation by <sup>27</sup>Al MAS and MQ MAS NMR (C) 469
  - Fluoroformic Acid Anhydride, FC(O)O–C(O)F (C) 3832
  - NMR Reporter Screening for the Detection of High-Affinity Ligands (C) 3420
  - Novel pH-Reporter MRI Contrast Agents (C) 4334
  - Observation of a H-Agostic Bond in a Highly Active Rhenium–Alkylidene Olefin Metathesis Heterogeneous Catalyst by Two-Dimensional Solid-State NMR Spectroscopy (C) 4535
  - Oligomerization of p53 upon Cooperative DNA Binding: Towards a Structural Understanding of p53 Function (H) 1702
  - Paratropic Delocalized Ring Currents in Flattened Cyclooctatetraene Systems with Bond Alternation (C) 1558
  - Remarkably Large Geometry Dependence of <sup>57</sup>Fe NMR Chemical Shifts (C) 2312
  - Solid-State NMR Spectroscopic Methods in Chemistry (R) 3096
  - Solid-State NMR Studies of MCM-41 Supported with a Highly Catalytically Active Cluster (C) 4726
  - Spherical Homoaromaticity (C) 4309
  - Stable Helical Secondary Structure in Short-Chain *N,N'*-Linked Oligoureas

- Bearing Proteinogenic Side Chains (C) 1893
- Structure of a Drug-Induced DNA T-Bulge: Implications for DNA Frameshift Mutations (C) 4754
  - The Amide Protons of an Ytterbium(III) dota Tetraamide Complex Act as Efficient Antennae for Transfer of Magnetization to Bulk Water (C) 1919
  - The Core Structure of TMC-95A Is a Promising Lead for Reversible Proteasome Inhibition (C) 780
  - The Inhibiting Influence of Aromatic Solvents on the Activity of Asymmetric Hydrogenations (C) 777
- Nobel lecture
- Asymmetric Catalysis: Science and Opportunities (Nobel Lecture) (R) 2008
  - Asymmetric Hydrogenations (Nobel Lecture) (R) 1998
  - Searching for New Reactivity (Nobel Lecture) (R) 2024
- Noble gases
- Gold–Xenon Complexes (C) 454
  - Structure of Bis(pentafluorophenyl)xenon,  $\text{Xe}(\text{C}_6\text{F}_5)_2$  (C) 448
- N,O ligands
- A Modular Approach to  $\text{C}_1$  and  $\text{C}_3$  Chiral N-Tripodal Ligands for Asymmetric Catalysis (C) 3473
  - An Efficient and Highly Enantio- and Diastereoselective Cyclopropanation of Olefins Catalyzed by Schiff-Base Ruthenium(II) Complexes (C) 2953
  - A Practical Oligomeric [(salen)Co] Catalyst for Asymmetric Epoxide Ring-Opening Reactions (C) 1374
  - A Tetranuclear Mixed-Valent  $\text{Mn}^{\text{II}}\text{Mn}^{\text{IV}}$  Compound with a  $(\mu_4\text{-O})\text{Mn}_4$  Core (C) 2148
  - Novel Achiral Biphenol-Derived Diastereomeric Oxovanadium(IV) Complexes for Highly Enantioselective Oxidative Coupling of 2-Naphthols (C) 4532
  - Novel Synthetic Approach to Trinuclear 3d-4f Complexes: Specific Exchange of the Central Metal of a Trinuclear Zinc(II) Complex of a Tetraoxime Ligand with a Lanthanide(III) Ion (C) 4670
  - Silicon–Enamine Complexes: Pentacoordinate Silicon Compounds (C) 1732
- Noncovalent interactions
- A Cyclodextrin Diphosphane as a First and Second Coordination Sphere Cavitand: Evidence for Weak  $\text{C-H}\cdots\text{Cl-M}$  Hydrogen Bonds within Metal-Capped Cavities (C) 2593
  - Additivity and Quantification of Dispersive Interactions—from Cyclopropyl to Nitro Groups: Measurements on Porphyrin Derivatives (C) 1368
  - A Model System Mimicking Glycosphingolipid Clusters to Quantify Carbohydrate Self-Interactions by Surface Plasmon Resonance (C) 1554
  - Anion– $\pi$  Interactions: Do They Exist? (C) 3389
  - Arene–Perfluoroarene Interactions as Physical Cross-Links for Hydrogel Formation (C) 1563
  - De Novo Protein Surface Design: Use of Cation– $\pi$  Interactions to Enhance Binding between an  $\alpha$ -Helical Peptide and a Cationic Molecule in 50% Aqueous Solution (C) 117
  - Noncovalent Chemistry of Nitrous Oxide: Interactions with Secondary *cis* Amides in Solution (C) 3854
  - Selective Complexation of *N*-Alkylpyridinium Salts: Recognition of  $\text{NAD}^+$  in Water (C) 1355
  - Self-Assembled Receptors for Enantioselective Recognition of Chiral Carboxylic Acids in a Highly Cooperative Manner (C) 1924
  - Structure of a Drug-Induced DNA T-Bulge: Implications for DNA Frameshift Mutations (C) 4754
  - The Hydrogen Bond in the Solid State (R) 48
- Nonlinear optics
- An Axially Bridged Indium Phthalocyanine Dimer with an In–In Bond (C) 3239
  - Boron Chemistry Lights the Way: Optical Properties of Molecular and Polymeric Systems (M) 2927
  - Electric-Field-Modulated Circular-Diffraction Effects in Second-Harmonic Generation from a Chiral Liquid Crystal (C) 3882
  - Layer-By-Layer Deposition and Ordering of Low-Molecular-Weight Dye Molecules for Second-Order Nonlinear Optics (C) 3236
  - Nanostructured Molecular Materials for Device-Quality, Highly Efficient Electrooptic Poled Polymers (H) 3363
  - Novel, Acentric Metal–Organic Coordination Polymers from Hydrothermal Reactions Involving In Situ Ligand Synthesis (C) 3800
- Norms
- Can Moral Norms be Rationally Justified? (E) 3353
- N,P ligands
- A New Approach to Metalated Imido and Amido Tellurophosphoranes (C) 3468
  - Application of a New Family of P,N Ligands to the Highly Enantioselective Hydroxylation of Aryl Alkyl and Dialkyl Ketones (C) 3892
  - Combinatorial Libraries with P-Functionalized Aminopyridines: Ligands for the Preparation of Efficient C(Aryl)–Cl Activation Catalysts (C) 1521
- Nucleation
- Nanoscopic Pt Colloids in the “Embryonic State” (C) 4041
- Nucleic acids
- Colorimetric and Fluorometric Detection of Nucleic Acids Using Cationic Polythiophene Derivatives (C) 1548
  - Small Interfering RNAs and Their Chemical Synthesis (H) 2265
  - The Torch of Erwin Chargaff and the Fire of Heraklitus Devour Their Children (E) 4213
- Nucleobases
- Self-Complementary Metal Complexes Containing a DNA Base Pair (C) 1047
  - Towards A DNA-Like Duplex without Hydrogen-Bonded Base Pairs (C) 3203
- Nucleophiles
- Stereoselective Pinacol-Type Rearrangement of 2,3-Epoxy Alcohols with Retention of Configuration Mediated by Bis(iodozincio)methane (C) 2837
- Nucleophilic addition
- $\alpha$ -Lithiation of 1-Aryl-3,3-dialkyltriazenes and Intramolecular Conversion to Benzylamine and Tetrahydrobenzotriazine Derivatives (C) 484
  - Ethane and Ethylidene Dicarboxylates from the Ruthenium(II)-Catalyzed “Disproportionate Addition” of Carboxylic Acids to Ethene (C) 3905
  - Lewis Acid Promoted, O-Selective, Nucleophilic Addition of Silyl Enol Ethers to N=O bonds (C) 2986 Corrigendum: 3313
  - Remarkably Stable Tetrahedral Intermediates: Carbinols from Nucleophilic Additions to *N*-Acylpyrroles (C) 3188
  - Sterically Hindered Lithium Dialkylcuprates for the Generation of Highly Functionalized Mixed Cuprates through a Halogen–Copper Exchange (C) 3263
  - *trans*-Addition of Two Carbon Substituents across a Benzene Double Bond in  $[(\eta^6\text{-Benzene})\text{Mo}(\text{CO})_3]$  (C) 4577
- Nucleophilic substitution
- A One-Pot Synthesis of Chromophoric Silicate-Based Xerogels (C) 1729 Corrigendum: 3085
  - First Direct Observation of the Two Distinct Steps in an  $\text{S}_{\text{N}}1$  Reaction (C) 4493
  - Stereospecific Interconversion between *cis* and *trans* 2,3-Epoxy sulfides (C) 819
- Nucleosides
- A Model Nucleoside for Electron Injection into DNA: 5-Pyrenyl-2'-Deoxyribose (C) 2978
  - A New Entry to the Stereoselective Introduction of an Ethynyl Group by a Radical Reaction: Synthesis of the Potential Antimetabolite 2'-Deoxy-2'-C-ethynyluridine (C) 4748
  - 7-Deaza-2'-deoxyxanthosine Dihydrate Forms Water-Filled Nanotubes with  $\text{C-H}\cdots\text{O}$  Hydrogen Bonds (C) 603
  - RNA Two-State Conformation Equilibrium and the Effect of Nucleobase Methylation (C) 605
- Nucleotides
- A Further Step towards Single-Molecule Sequencing: *Escherichia coli* Exonuclease III Degrades DNA that is Fluorescently Labeled at Each Base Pair (C) 3215
  - An Electrochemical Probe of DNA Stacking in an Antisense Oligonucleotide Containing a C3'-endo-Locked Sugar (C) 3402
  - Fluorescence Spectroscopic Quantification of the Release of Cyclic Nucleotides from Photocleavable [Bis(carboxymethoxy)coumarin-4-yl]methyl Esters inside Cells (C) 3625
  - How to Make a DNA Chip (R) 1276
  - Phosphite Dehydrogenase: A Versatile Cofactor-Regeneration Enzyme (C) 3257
  - Polymerase Recognition of Unnatural Base Pairs (C) 3841 Corrigendum: 4612



#### Obituary

- The Scientific and Humane Legacy of Max Perutz (1914–2002) (E) 3155

#### O ligands

- A Highly Active and Air-Stable Ruthenium Complex for Olefin Metathesis (C) 794
- An Enantiopure Molecular Ferromagnet (C) 586
- An Umpolung Approach to *cis*-Hyponitrite Complexes (C) 2371
- An Unprecedented Mixed-Charged State in a Supramolecular Assembly of Ligand-Based Mixed-Valence Redox Isomers  $(\text{ET}^+)_3[\text{Cr}^{\text{III}}(\text{Cl}_4\text{SO})_2(\text{Cl}_4\text{Cat})]^-[\text{Cr}^{\text{III}}(\text{Cl}_4\text{SO})(\text{Cl}_4\text{Cat})_2]^{2-}$  (C) 130

- A Three-Dimensional Homometallic Molecular Ferrimagnet (C) 1561
- Dinitrogen-Bond Cleavage in a Niobium Complex Supported by a Tridentate Aryloxide Ligand (C) 2792
- Di-, Tri-, and Tetracopper(II) Complexes of a Pseudocalixarene Macrocyclic (C) 4553
- Facile Syntheses of Copper(I) Alkynyl Clusters Stabilized by Hexafluoroacetylacetonate (hfac) Ligands: The Structure of  $[\text{Cu}_2(\text{hfac})_{11}(\text{1-pentynyl})_{15}]$  (C) 3038
- $[\text{Fe}(\text{OMe})_2[\text{O}_2\text{CC}(\text{OH})\text{Ph}_2]_{12}]$ : Synthesis and Characterization of a New Member in the Family of Molecular Ferric Wheels with the Carboxylatobis(alkoxo) Bridging Unit (C) 2386
- Targeted Synthesis of Ferromagnetically Coupled Complexes with Modified 1,3,5-Trihydroxybenzene Ligands (C) 3823
- Oligomers**
  - Oligo(phenylenevinylene)s with Terminal Donor–Acceptor Substitution (C) 292
  - Structural Analysis of  $\text{C}_{60}$  Trimers by Direct Observation with Scanning Tunneling Microscopy (C) 969
- Oligonucleotides**
  - 7-Deaza-2'-deoxyxanthosine Dihydrate Forms Water-Filled Nanotubes with C–H...O Hydrogen Bonds (C) 603
  - Directing Otherwise Incompatible Reactions in a Single Solution by Using DNA-Templated Organic Synthesis (C) 4104
  - DNA-Templated Synthesis: More Versatile than Expected (H) 89
  - Efficient and Simple Solid-Phase Synthesis of Short Cyclic Oligodeoxynucleotides Bearing a Phosphorothioate Linkage (C) 3704
  - Fluorescent Deazaflavin–Oligonucleotide Probes for Selective Detection of DNA (C) 486
  - RNA Two-State Conformation Equilibria and the Effect of Nucleobase Methylation (C) 605
  - Small Interfering RNAs and Their Chemical Synthesis (H) 2265
  - Towards A DNA-Like Duplex without Hydrogen-Bonded Base Pairs (C) 3203
  - Tuning PCR Specificity by Chemically Modified Primer Probes (C) 4766
- Oligopeptides**
  - Supramolecular Organization of Oligopeptides, through Complexation with Surfactants (C) 2957
- Oligosaccharides**
  - Carbohydrate Arrays as Tools for Glycomics (H) 3583
  - Cyclotrehalins: Cyclooligosaccharide Receptors Featuring a Hydrophobic Cavity (C) 3674 Corrigendum: 4370
  - Efficient Solid-Phase Synthesis of a Complex, Branched N-Glycan Hexasaccharide: Use of a Novel Linker and Temporary-Protecting-Group Pattern (C) 4489
  - Enzymatic Elongation of the LEC14 Antigen Generates a  $\beta$ -1,2 Arm on N-Glycans (C) 4259
  - Facile Assembly of Cell Surface Oligosaccharide Mimics by Copolymerization of Carbohydrate Modules (C) 4463
  - Highly Selective Disaccharide Recognition by a Tricyclic Octaamide Cage (C) 4093
  - Reactivity-Based One-Pot Synthesis of a Lewis Y Carbohydrate Hapten: A Colon–Rectal Cancer Antigen Determinant (C) 4087
- Synthesis of Biologically Potent  $\alpha$ 1 $\rightarrow$ 2-Linked Disaccharide Derivatives via Regioselective One-Pot Protection–Glycosylation (C) 2360
- Oligoureas**
  - Stable Helical Secondary Structure in Short-Chain N,N'-Linked Oligoureas Bearing Proteinogenic Side Chains (C) 1893
- Omphalotin A**
  - Total Synthesis of the Nematicidal Cyclododecapeptide Omphalotin A by Using Racemization-Free Triphosgene-Mediated Couplings in the Solid Phase (C) 2307
- O–O activation**
  - A Diferric Peroxo Complex with an Unprecedented Spin Configuration: An  $S=2$  System Arising from an  $S=5/2$ ,  $1/2$  Pair (C) 617
  - A New Mononuclear Iron(III) Complex Containing a Peroxocarbonate Ligand (C) 1202
  - A Structurally Characterized Chromium(III) Superoxide Complex Features “Side-on” Bonding (C) 2333
  - Bis( $\mu$ -oxo)dimetal “Diamond” Cores in Copper and Iron Complexes Relevant to Biocatalysis (R) 1114 Corrigendum: 1821
  - Dioxygen Activation by a Mononuclear Ir<sup>III</sup>–Ethene Complex (C) 2135
- Orbital interactions**
  - Orbital Interactions in Strong and Weak Hydrogen Bonds are Essential for DNA Replication (C) 2092
- Organic devices**
  - Nanostructured Molecular Materials for Device-Quality, Highly Efficient Electrooptic Poled Polymers (H) 3363
- Organic–inorganic hybrid composites**
  - A Breathing Hybrid Organic–Inorganic Solid with Very Large Pores and High Magnetic Characteristics (C) 281
  - Electrochemical Modulation of Fluorophore Emission on a Nanostructured Gold Film (C) 2764
  - From Self-Organizing Polymers to Nano-hybrid and Biomaterials (R) 688
  - Hybrid Molecular Dumbbells: Bridging Polyoxometalate Clusters with an Organic  $\pi$ -Conjugated Rod (C) 1566
  - Nonrelaxable Anisotropic Organization of Organic–Inorganic Hybrid Materials Induced by an Electric Field (C) 594
  - Paramagnetic Keplerate “Necklaces” Synthesized by a Novel Room-Temperature Solid-State Reaction: Controlled Linking of Metal-Oxide-Based Nanoparticles (C) 579
  - Towards Main-Chain-Polyoxometalate-Containing Hybrid Polymers: A Highly Efficient Approach to Bifunctionalized Organoimido Derivatives of Hexamolybdates (C) 4129
- Organic synthesis**
  - The CP Molecule Labyrinth: A Paradigm of How Endeavors in Total Synthesis Lead to Discoveries and Inventions in Organic Synthesis (R) 2678
- Organogels**
  - Sol–Gel Transcription of Sugar-Appended Porphyrin Assemblies into Fibrous Silica: Unimolecular Stacks versus Helical Bundles as Templates (C) 853
- Organometallic compounds**
  - Characterization of Reactive Intermediates by Diffusion-Ordered NMR Spectroscopy: A Snapshot of the Reaction of  $^{13}\text{CO}_2$  with  $[\text{Cp}_2\text{Zr}(\text{Cl})\text{H}]$  (C) 107
  - Iron-Catalyzed Cross-Coupling Reactions of Alkyl-Grignard Reagents with Aryl Chlorides, Tosylates, and Triflates (C) 609
- Organometallic synthesis**
  - Shape Control of Thermodynamically Stable Cobalt Nanorods through Organometallic Chemistry (C) 4286
- Organozinc reagents**
  - Carbon–Carbon Double-Bond Formation from the Reaction of Organozinc Reagents with Aldehydes Catalyzed by a Nickel(II) Complex (C) 2757 Corrigendum: 4170
- Origin of life**
  - Chirality of Living Systems: A Helping Hand from Crystals and Oligopeptides (M) 1139
- Oscillating metallocenes**
  - “Oscillating” Metallocene Catalysts: How Do They Oscillate? (C) 505
- Osmium**
  - A New Approach to Osmium-Catalyzed Asymmetric Dihydroxylation and Aminohydroxylation of Olefins (C) 472
  - $[\text{Os}^{\text{III}}(\text{tpy})(\text{Cl})(\text{NCCH}_3)(\text{NSAr})]$ : Reversible Reduction of Acetonitrile by  $\text{Os}^{\text{III}}$ –Sulfilimido Complexes (C) 3870
  - Proton-Coupled Electron Transfer from Phosphorus: A P–H/P–D Kinetic Isotope Effect of 178 (C) 1395
  - Proton-Induced, Reversible Evolution of  $\text{O}_2$  from the  $\text{Os}^{\text{IV}}$ –Sulfoximido Complex  $[\text{Os}^{\text{IV}}(\text{tpy})(\text{Cl})_2[\text{NS}(\text{O})\text{-3,5-Me}_2\text{C}_6\text{H}_3]]$  (C) 2330
- Oxidases**
  - A Europium-Ion-Based Luminescent Sensing Probe for Hydrogen Peroxide (C) 4495
- Oxidation**
  - Alkene C–H Activations at Dinuclear Complexes Promoted by Oxidation (C) 1208
  - A Method for Thermal Generation of Aryloxy Radicals at Ambient Temperatures: Application to Low-Density Lipoprotein (LDL) Oxidation (C) 804
  - An Asymmetric Phase-Transfer Dihydroxylation Reaction (C) 3479
  - A New Catalyst for the Selective Oxidation of Butane and Propane (C) 858
  - A Novel Rhodium-Catalyzed Reduction–Oxidation Process: Reaction of 4-Alkynals with Phenol to Provide *cis*-4-Alkenoates (C) 1607
  - A Structural and Functional Model of Galactose Oxidase: Control of the One-Electron Oxidized Active Form through Two Differentiated Phenolic Arms in a Tripodal Ligand (C) 3047
  - Asymmetric Baeyer–Villiger Reaction with Hydrogen Peroxide Catalyzed by a Novel Planar-Chiral Bisflavin (C) 2366
  - Dioxygen Activation by a Mononuclear Ir<sup>III</sup>–Ethene Complex (C) 2135
  - Direct Electrochemical Aziridination of Alkenes under Metal-Free Conditions (H) 3586
  - Efficient Intramolecular Oxidative Amination of Olefins through Direct Dioxygen-Coupled Palladium Catalysis (C) 164
  - Electrochemical Modification of Single Carbon Nanotubes (C) 1353
  - Facile Oxidation of Alcohols to Carbonyl Compounds Using a Tris(2-methylphenyl)bismuth Dichloride–DBU Binary System (C) 3028
  - IBX-Mediated Oxidation of Primary Alcohols and Aldehydes To Form Carboxylic Acids (C) 4059

- Ligand Topology Tuning of Iron-Catalyzed Hydrocarbon Oxidations (C) 2179
- Methyleneimine  $\text{CH}_2=\text{NH}$  as a Unidentate Ligand in Rhenium Complexes (C) 2192
- Modulation of the Reactivity Profile of IBX by Ligand Complexation: Ambient Temperature Dehydrogenation of Aldehydes and Ketones to  $\alpha,\beta$ -Unsaturated Carbonyl Compounds (C) 993
- New Catalyst Systems for the Catalytic Conversion of Methane into Methanol (C) 1745
- Oxidation of Silyl Enol Ethers by Using IBX and IBX·N-Oxide Complexes: A Mild and Selective Reaction for the Synthesis of Enones (C) 996
- Protein Affinity Labeling Mediated by Genetically Encoded Peptide Tags (C) 356
- Supported Ruthenium Catalyst for the Heterogeneous Oxidation of Alcohols with Molecular Oxygen (C) 4538
- Synthesis of the Functionalized Tricyclic Skeleton of Guanacastepene A: A Tandem Epoxide-Opening  $\beta$ -Elimination/Knoevenagel Cyclization (C) 2185
- 10 Years after Rio—Concepts on the Contribution of Chemistry to a Sustainable Development (R) 414
- Oxidative addition**
  - Tin Analogues of “Arduengo Carbenes”: Synthesis of 1,3,2 $\lambda^2$ -Diazastannoles and Transfer of Sn Atoms between a 1,3,2 $\lambda^2$ -Diazastannole and a Diazadiene (C) 1888
  - Unparalleled Rates for the Activation of Aryl Chlorides and Bromides: Coupling with Amines and Boronic Acids in Minutes at Room Temperature (C) 4746
- Oxidative coupling**
  - Cyclo[8]pyrrole: A Simple-to-Make Expanded Porphyrin with No Meso Bridges (C) 1422
- Oxide nitrides**
  - Spinel Sialons (C) 789
- Oxides**
  - Oxidic Nanotubes and Nanorods—Anisotropic Modules for a Future Nanotechnology (R) 2446
  - Self-Assembly of ZnO: From Nanodots to Nanorods (C) 1188
- Oxidoreductases**
  - Biocatalytic Asymmetric Hydrogen Transfer (C) 1014
  - Distal Cu Ion Protects Synthetic Heme/Cu Analogues of Cytochrome Oxidase against Inhibition by CO and Cyanide (C) 4139
  - Electrocatalytic  $\text{O}_2$  Reduction by Synthetic Analogues of the Heme/Cu Site of Cytochrome Oxidase Incorporated in a Lipid Film (C) 3487
  - Highly Enantioselective Preparation of Multifunctionalized Propargylic Building Blocks (C) 634
- Oximes**
  - Novel Ene-Like Cycloisomerization Reaction of Nitrile Oxides with a Tethered Allyltrimethylsilyl Group (C) 1586
- Oxo-bridged metal strings**
  - Hybrid Metallocorates or One-Dimensional Oxo-Bridged Metal Strings by Self-Assembly—Coordination Number Controlled Product Formation (C) 304
- Oxo ligands**
  - Unusual Uranyl Tellurites Containing  $[\text{Te}_2\text{O}_6]^{4-}$  Ions and Three-Dimensional Networks (C) 3426

## Oxychlorination

- The Chemistry of the Oxychlorination Catalyst: an In Situ, Time-Resolved XANES Study (C) 2341

## Oxygen

- Copper-Catalyzed Oxidative Heterocyclization by Atmospheric Oxygen (C) 2962
- News about Oxygen (H) 573
- Singlet Delta Oxygen Production from a Gas–Solid Reaction (C) 3252
- Unusual Peroxo Intermediates in the Reaction of Dioxxygen with Carboxylate-Bridged Diiron(II,II) Paddlewheel Complexes (C) 149

## Oxygen evolution

- Proton-Induced, Reversible Evolution of  $\text{O}_2$  from the  $\text{Os}^{\text{IV}}$ –Sulfoximido Complex  $[\text{Os}^{\text{IV}}(\text{tpy})(\text{Cl})_2\{\text{NS}(\text{O})\text{-}3,5\text{-Me}_2\text{C}_6\text{H}_3\}]$  (C) 2330



## Palladium

- A Convenient Oxime-Carbapalladacycle-Catalyzed Suzuki Cross-Coupling of Aryl Chlorides in Water (C) 179
- A Defined N-Heterocyclic Carbene Complex for the Palladium-Catalyzed Suzuki Cross-Coupling of Aryl Chlorides at Ambient Temperatures (C) 1363
- A Highly Efficient Catalyst for the Telomerization of 1,3-Dienes with Alcohols: First Synthesis of a Monocarbene-palladium(o)–Olefin Complex (C) 986
- A Method for Palladium-Catalyzed Cross-Couplings of Simple Alkyl Chlorides: Suzuki Reactions Catalyzed by  $[\text{Pd}_2(\text{dba})_3]/\text{PCy}_3$  (C) 1945
- An Efficient Enantioselective Synthesis of (–)-Galanthamine (C) 2795
- An Efficient One-Pot Enantio- and Diastereoselective Synthesis of Heterocycles (C) 4693
- A New Generation of Air Stable, Highly Active Pd Complexes for C–C and C–N Coupling Reactions with Aryl Chlorides (C) 3668
- A New  $\text{Pd}^0$ – $\text{Cu}^{\text{I}}$  Bimetallic Catalyst for the Synthesis of Indoles from Isocyanates and Allyl Carbonates (C) 3230
- Cavity-Directed, Highly Stereoselective [2+2] Photodimerization of Olefins within Self-Assembled Coordination Cages (C) 1347
- Chirality Induction through the Reversible Catenation of Coordination Rings (C) 3269
- Concise Total Synthesis of (–)-Fronodosin B Using a Novel Palladium-Catalyzed Cyclization (C) 1569
- Controlled Hierarchical Self-Assembly and Deposition of Nanoscale Photonic Materials (C) 2117
- Cyanamide Synthesis by the Palladium-Catalyzed Cleavage of a Si–N Bond (C) 1780
- Dinitroxide Carbenes, A New Class of Carbenes with Autoimpolung Character: Preparation in Solution and Stabilization in Transition Metal Complexes (C) 311
- Efficient Intramolecular Oxidative Amination of Olefins through Direct Dioxxygen-Coupled Palladium Catalysis (C) 164

- Electronic Structure and Bonding in Hexacoordinate Silyl–Palladium Complexes (C) 1953
- Enantiomeric Self-Recognition of a Facial Amphiphile Triggered by  $[\{\text{Pd}(\text{ONO}_2)(\text{en})\}_2]$  (C) 1905
- Generation of Reactivity from Typically Stable Ligands: C–C Bond-Forming Reductive Elimination from Aryl Palladium(II) Complexes of Malonate Anions (C) 4289
- Heterogeneous Pd-Catalyzed Asymmetric Allylic Substitution Using Resin-Supported Trost-Type Bisphosphane Ligands (C) 3852
- Hexakis(silyl)palladium(vi) or Palladium(II) with  $\eta^2$ -Disilane Ligands? (C) 1956
- Highly Efficient Catalytic Synthesis of Substituted Allenes Using Indium (C) 3901
- Hybrid Molecular Dumbbells: Bridging Polyoxometalate Clusters with an Organic  $\pi$ -Conjugated Rod (C) 1566
- Indenol Ether Formation from Aryl Alkynes Bearing *ortho*-Acetals: An Unprecedented Rearrangement in Palladium-Catalyzed Carboalkoxylation (C) 4328
- Is Fluoride Bonded to Two Pd Acceptors Still Basic? Three  $\text{CH}_2\text{Cl}_2$  Molecules Encapsulating a  $\text{Pd}_2(\mu\text{-F})_2$  Square and New Implications for Catalysis (C) 4476
- Observation of the Direct Products of Migratory Insertion in Aryl Palladium Carbene Complexes and Their Subsequent Hydrolysis (C) 2363
- *Ortho* Substituents Direct Regioselective Addition of Tributyltin Hydride to Unsymmetrical Diaryl (or Heteroaryl) Alkynes: An Efficient Route to Stannylated Stilbene Derivatives (C) 1578
- Palladium-Catalyzed  $\alpha$ -Arylation of Esters: Ideal New Methodology for Discovery Chemistry (H) 953
- Palladium-Catalyzed Asymmetric Allylic Alkylation of  $\alpha$ -Aryl Ketones (C) 3492
- Palladium-Catalyzed Coupling of Alkyl Chlorides and Grignard Reagents (C) 4056
- Palladium-Catalyzed Coupling Reactions of Aryl Chlorides (R) 4176
- $\text{Pd}^{\text{II}}$ -Catalyzed Cyclization of Alkynes Containing Aldehyde, Ketone, or Nitrile Groups Initiated by the Acetoxypalladation of Alkynes (C) 4343
- Pd-Catalyzed Decarbonylative Olefination of Aryl Esters: Towards a Waste-Free Heck Reaction (C) 1237
- $\text{Pd}^0$ -Catalyzed Three-Component Tandem Double-Addition–Cyclization Reaction: Stereoselective Synthesis of *cis*-Pyrrolidine Derivatives (C) 4737
- $[\text{Pd}_3(\text{InCp}^*)_4(\mu_2\text{-InCp}^*)_4]$ : Three Linearly Arranged Palladium Atoms Wrapped into a Fluxional Shell of Eight  $\text{InCp}^*$  Ligands (C) 4761
- Polymer-Supported  $\text{C}_2$ -Symmetric Ligands for Palladium-Catalyzed Asymmetric Allylic Alkylation Reactions (C) 4691
- Profound Steric Control of Reactivity in Aryl Halide Addition to Bisphosphane Palladium(0) Complexes (C) 1760
- Ruthenium-Catalyzed Oxidative Heck Reactions (C) 169
- Sequential Base-Promoted Annulation/Palladium-Catalyzed Domino 1,5-Enyne Arylation and Vinylation of  $\alpha$ -Propargylaminohydrazones (C) 1400



- Simple Mixed Tricyclohexylphosphane–Triarylphosphite Complexes as Extremely High-Activity Catalysts for the Suzuki Coupling of Aryl Chlorides (C) 4120
- Single-Step Assembly of a  $C_2$ -Symmetrical Palladium(IV) Spirocyclic Complex (C) 3662
- Suzuki Cross-Couplings of Alkyl Tosylates that Possess  $\beta$  Hydrogen Atoms: Synthetic and Mechanistic Studies (C) 3910
- Synthesis and Structural Characterization of Organometallic Cyclines: Novel Nanoscale, Carbon-Rich Topologies (C) 2378
- Total Synthesis of (–)-Strychnine (C) 1934
- Two-Step, Stereoselective Hydrazidoarylation of 1,3-Cyclopentadiene (C) 3375
- Unparalleled Rates for the Activation of Aryl Chlorides and Bromides: Coupling with Amines and Boronic Acids in Minutes at Room Temperature (C) 4746
- Pamamycin**
  - Total Synthesis of (+)-Pamamycin-607 (C) 1392
- Paramagnetism**
  - The Ability of the  $\alpha,\alpha'$ -Diiminopyridine Ligand System to Accept Negative Charge: Isolation of Paramagnetic and Diamagnetic Trianions (C) 3873
- Parity violation**
  - How Important is Parity Violation for Molecular and Biomolecular Chirality? (R) 4618
- Particle enlargement**
  - Naked-Eye Sensitive Detection of Immunoglobulin G by Enlargement of Au Nanoparticles In Vitro (C) 2176
- Patterned growth**
  - Low-Temperature Synthesis of Single-Crystal Germanium Nanowires by Chemical Vapor Deposition (C) 4783
- Patterning**
  - Fabricating Microarrays of Functional Proteins Using Affinity Contact Printing (C) 2320
  - Microporous Supramolecular Coordination Compounds as Chemosensory Photonic Lattices (C) 154
- Pauson–Khand reaction**
  - A Short Synthesis of ( $\pm$ )-13-Deoxyserine (C) 1783
  - 1,2,3,5-Tetrahydro-1,2,3-methenopent-4-ene, a Valence Isomer of Isoindene: Synthesis and Diels–Alder Reactions (C) 2969
- Pectenotoxin**
  - Asymmetric Syntheses of Pectenotoxins-4 and -8, Part II: Synthesis of the C20–C30 and C31–C40 Subunits and Fragment Assembly (C) 4573
  - Asymmetric Syntheses of Pectenotoxins-4 and -8, Part I: Synthesis of the C1–C19 Subunit (C) 4569
- Pentaazacyclopentadienide anion**
  - Experimental Detection of the Pentaazacyclopentadienide (Pentazolate) Anion,  $cyclo-N_5^-$  (C) 3051
- Pentazolate anion**
  - Experimental Detection of the Pentaazacyclopentadienide (Pentazolate) Anion,  $cyclo-N_5^-$  (C) 3051
- Peptidocinnamin E**
  - Solid-Phase Synthesis and Biological Evaluation of a Peptidocinnamin E Library (C) 3616
- Peptides**
  - A Crystalline  $\beta$ -Hairpin Peptide Nucleated by a Type I Aib-D-Ala  $\beta$ -Turn: Evidence for Cross-Strand Aromatic Interactions (C) 3863
  - A Strategy for the Synthesis of Sulfated Peptides (C) 3449
  - Cation Control in Functional Helical Programming: Structures of a D,L-Peptide Ion Channel (C) 4062
  - C–H...O Hydrogen Bond Mediated Chain Reversal in a Peptide Containing a  $\gamma$ -Amino Acid Residue, Determined Directly from Powder X-ray Diffraction Data (C) 494
  - *cis*-2-Aminocyclopentanecarboxylic Acid Oligomers Adopt a Sheetlike Structure: Switch from Helix to Nonpolar Strand (C) 1718
  - Efficient, Racemization-Free Peptide Coupling of N-Alkyl Amino Acids by Using Amino Acid Chlorides Generated In Situ—Total Syntheses of the Cyclopeptides Cyclosporin O and Omphalotin A (H) 4661
  - Fluorescence Enhancement through Enzymatic Cleavage of Internally Quenched Dendritic Peptides: A Sensitive Assay for the AspN Endoprotease (C) 3233
  - Magnetization of Chiral Monolayers of Polypeptide: A Possible Source of Magnetism in Some Biological Membranes (C) 761
  - Modular Building Blocks for Amino Acid Recognition in Peptides (C) 1751
  - Observation of Uniaxial Negative Thermal Expansion in an Organic Crystal (C) 754
  - Ordered Langmuir–Blodgett Films of Amphiphilic  $\beta$ -Hairpin Peptides Imaged by Atomic Force Microscopy (C) 127
  - Peptide-Templated Saccharide Synthesis on a Solid Support (C) 1215
  - Photoresponsive Cyclic Bis(cysteiny)l-peptides as Catalysts of Oxidative Protein Folding (C) 289
  - Protein-Inspired Materials: Synthetic Concepts and Potential Applications (H) 1509
  - Remodeling of gp41-C34 Peptide Leads to Highly Effective Inhibitors of the Fusion of HIV-1 with Target Cells (C) 2937
  - The First Total Synthesis of Efrapentin C (C) 4267
  - The (2-Phenyl-2-trimethylsilyl)ethyl(PTMSEL) Linker—A Novel Linker for the Solid-Phase Synthesis of Protected Peptides and Glycopeptides Cleavable with Fluoride (C) 317
  - The Uronium/Guanidinium Peptide Coupling Reagents: Finally the True Uronium Salts (C) 441
  - Total Synthesis of the Nematicidal Cyclododecapeptide Omphalotin A by Using Racemization-Free Triphosgene-Mediated Couplings in the Solid Phase (C) 2307
- Peptidomimetics**
  - Combinatorial and Rational Strategies To Develop Nonpeptidic  $\alpha_4\beta_7$ -Integrin Antagonists from Cyclic Peptides (C) 3007
  - Glycosamino Acids: Building Blocks for Combinatorial Synthesis—Implications for Drug Discovery (R) 230
  - Self-Assembling Organic Nanotubes from Enantiopure Cyclo-*N,N'*-Linked Oligoureas: Design, Synthesis, and Crystal Structure (C) 1895
  - Stable Helical Secondary Structure in Short-Chain *N,N'*-Linked Oligoureas Bearing Proteinogenic Side Chains (C) 1893
- Stereoselective Synthesis of Boc-Protected *cis* and *trans*-4-Trifluoromethylprolines by Asymmetric Hydrogenation Reactions (C) 1600**
- Pericyclic reaction**
  - A Concise Formal Total Synthesis of ( $\pm$ )-Strychnine by Using a Transannular Inverse-Electron-Demand Diels–Alder Reaction of a [3](1,3)Indolo[3](3,6)pyridazinophane (C) 3261
  - Dearomatizing Disrotatory Electrocyclic Ring Closure of Lithiated *N*-Benzoyloxazolidines (C) 1049
  - The  $HfCl_4$ -Mediated Diels–Alder Reaction of Furan (C) 4079
- Periodic table**
  - Chemical Transformations: Translation and the Periodic Table in Japan (E) 739
- Permeability**
  - Novel Capsules with High Stability and Controlled Permeability by Hierarchic Templating (C) 4019
- Peroxides**
  - Baeyer–Villiger Oxidations with Hydrogen Peroxide in Fluorinated Alcohols: Lactone Formation by a Nonclassical Mechanism (C) 4481
  - Formation of a Nonaoxirane from A2E, a Lipofuscin Fluorophore related to Macular Degeneration, and Evidence of Singlet Oxygen Involvement (C) 814
  - Low-Temperature Stopped-Flow Studies on the Reactions of Copper(II) Complexes and  $H_2O_2$ : The First Detection of a Mononuclear Copper(II)–Peroxo Intermediate (C) 4325
  - Singlet Delta Oxygen Production from a Gas–Solid Reaction (C) 3252
  - The Structure of the Peroxo Species in the TS-1 Catalyst as Investigated by Resonant Raman Spectroscopy (C) 4734
- Peroxodicarbonate**
  - Crystal Structure of  $K_2[C_2O_6]$ —First Proof of Existence and Constitution of a Peroxodicarbonate Ion (C) 1922
- Peroxo ligands**
  - A Diferric Peroxo Complex with an Unprecedented Spin Configuration: An  $S=2$  System Arising from an  $S=5/2, 1/2$  Pair (C) 617
  - A New Mononuclear Iron(III) Complex Containing a Peroxocarbonate Ligand (C) 1202
- Perutz, Max**
  - The Scientific and Humane Legacy of Max Perutz (1914–2002) (E) 3155
- Phase-transfer catalysis**
  - A Convenient Oxime–Carbapalladacycle-Catalyzed Suzuki Cross-Coupling of Aryl Chlorides in Water (C) 179
  - An Asymmetric Phase-Transfer Dihydroxylation Reaction (C) 3479
  - A Three-Phase Emulsion/Solid-Heterogenization Method for Transport and Catalysis (C) 4132
  - Conformationally Flexible, Chiral Quaternary Ammonium Bromides for Asymmetric Phase-Transfer Catalysis (C) 1551
  - $C_2$ -Symmetric Chiral Pentacyclic Guanidine: A Phase-Transfer Catalyst for the Asymmetric Alkylation of *tert*-Butyl Glycinate Schiff Base (C) 2832
  - Direct Asymmetric Aldol Reactions of Glycine Schiff Base with Aldehydes Catalyzed by Chiral Quaternary Ammonium Salts (C) 4542

- Highly Enantioselective and Practical Cinchona-Derived Phase-Transfer Catalysts for the Synthesis of  $\alpha$ -Amino Acids (C) 3036
- Phase transitions
  - High-Pressure Syntheses of Novel Binary Nitrogen Compounds of Main Group Elements (M) 77
  - Valence-Ordering Structures and Magnetic Behavior of Metallic MMX Chain Compounds (C) 2767
- Phenylenes
  - Total Syntheses and Structures of Angular [6]- and [7]Phenylene: The First Helical Phenylenes (Heliphenes) (C) 3223
  - Total Syntheses of Angular [7]-, [8]-, and [9]Phenylene by Triple Cobalt-Catalyzed Cycloisomerization: Remarkably Flexible Heliphenes (C) 3227
- Philosophy of science
  - Can Moral Norms be Rationally Justified? (E) 3353
- Phosphaalkenes
  - Poly(*p*-phenylenephosphaalkene): A  $\pi$ -Conjugated Macromolecule Containing P=C Bonds in the Main Chain (C) 2389
  - Synthesis, Structure, and Redox Properties of Diphosphathienoquinones (C) 2574
  - Unusual P=C Bond Cleavage by Double Dichlorosilylene Transfer from Trichlorosilyltrimethylgermane to *P*-Phosphanyl Phosphaalkenes (C) 3829
- Phosphane ligands
  - A Nanoporous Metal–Organic Framework Based on Bulky Phosphane Ligands (C) 764
  - Asymmetric Catalysis: Science and Opportunities (Nobel Lecture) (R) 2008
  - Asymmetric Hydrogenations (Nobel Lecture) (R) 1998
  - Bis(1,2,3,4- $\eta^4$ -anthracene)cobaltate(1–) (C) 1211
  - Methyl Transfer from Rhenium to Coordinated Thiolate Groups (C) 3807
  - Mono- and Bidentate Phosphinanes—New Chiral Ligands and Their Application in Catalytic Asymmetric Hydrogenations (C) 612
  - [(PPh<sub>3</sub>)Ag(HCB<sub>11</sub>Me<sub>11</sub>)]: A Complex with Intermolecular Ag $\cdots$ H<sub>3</sub>C Interactions (C) 3694
  - Profound Steric Control of Reactivity in Aryl Halide Addition to Bisphosphane Palladium(0) Complexes (C) 1760
  - Synthesis, Spectroscopy, and Solid-State Structural Characterization of the Hexanuclear Copper Macrocycle [Cu<sub>6</sub>Cl<sub>6</sub>( $\mu$ -PCHP)<sub>6</sub>] (C) 2571
- Phosphanes
  - A Cyclodextrin Diphosphane as a First and Second Coordination Sphere Cavitand: Evidence for Weak C–H $\cdots$ Cl–M Hydrogen Bonds within Metal-Capped Cavities (C) 2593
  - A New Generation of Air Stable, Highly Active Pd Complexes for C–C and C–N Coupling Reactions with Aryl Chlorides (C) 3668
- Phosphanides
  - The First “Naked” Primary Phosphanide Anion [ArPH]<sup>–</sup> (C) 1193
- Phosphatases
  - Direct Screening for Phosphatase Activity by Turnover-Based Capture of Protein Catalysts (C) 775 Corrigendum: 1460
- Phosphates
  - Hexagonal and Cubic Thermally Stable Mesoporous Tin(IV) Phosphates with Acidic and Catalytic Properties (C) 1594
  - Mo<sup>V</sup>/Pyrophosphate Polyoxometalate: An Inorganic Cryptate (C) 2808
  - Morphosynthesis of Octacalcium Phosphate Hollow Microspheres by Polyelectrolyte-Mediated Crystallization (C) 2163
  - Naked-Eye Detection of Phosphate Ions in Water at Physiological pH: A Remarkably Selective and Easy-To-Assemble Colorimetric Phosphate-Sensing Probe (C) 3809
- Phosphazenes
  - Helical Sense Bias Induced by Point Chirality in Cage Compounds (C) 1205
  - Supramolecular-Wire Confinement of I<sub>2</sub> Molecules in Channels of the Organic Zeolite Tris(*o*-phenylenedioxy)cyclotriphosphazene (C) 2281
- Phosphenes
  - Unusual P=C Bond Cleavage by Double Dichlorosilylene Transfer from Trichlorosilyltrimethylgermane to *P*-Phosphanyl Phosphaalkenes (C) 3829
- Phosphinimide ligands
  - The Extended Borinium Cation: [(tBu<sub>3</sub>PN)<sub>2</sub>B]<sup>+</sup> (C) 498
- Phospholipids
  - Electrocatalytic O<sub>2</sub> Reduction by Synthetic Analogues of the Heme/Cu Site of Cytochrome Oxidase Incorporated in a Lipid Film (C) 3487
  - Spatially Directed Protein Adsorption by Using a Novel, Nanoscale Surface Template (C) 4303
- Phosphoric ester hydrolysis
  - A Further Step towards Single-Molecule Sequencing: *Escherichia coli* Exonuclease III Degrades DNA that is Fluorescently Labeled at Each Base Pair (C) 3215
- Phosphorus
  - A Method for Determining the Difference in Relative Apicophilicity of Carbon-Containing Substituents of 10-P-5 Phosphoranes (C) 4718
  - As[P(NMe<sub>2</sub>)<sub>3</sub>]<sub>2</sub><sup>+</sup> as Simultaneous As<sup>I</sup> and P<sup>I</sup> Source: Synthesis and Density Function Calculations of Planar Tetracoordinate Arsonium and Phosphonium Ions (C) 450
  - Functionalization of Elemental Phosphorus with [Zr( $\eta^5$ -C<sub>5</sub>Me<sub>5</sub>)( $\eta^5$ -C<sub>3</sub>H<sub>7</sub>Bu)H<sub>2</sub>]<sub>2</sub> (C) 3463
  - Odd-Electron Bonds and Biradicals in Main Group Element Chemistry (H) 4006
  - Pentaphosphaferrocene as a Linking Unit for the Formation of One- and Two-Dimensional Polymers (C) 1737
  - Poly(*p*-phenylenephosphaalkene): A  $\pi$ -Conjugated Macromolecule Containing P=C Bonds in the Main Chain (C) 2389
  - Stable Non-Push–Pull Phosphanylcarbenes: NMR Spectroscopic Characterization of a Methylcarbene (C) 2835
  - Synthesis and Structure of the First Stable Phosphabismuthene (C) 139
  - The Decaphosphatitanocene Dianion—A New Chapter in the Chemistry of Naked Polyphosphorus Ligands (H) 2723
  - The First “Naked” Primary Phosphanide Anion [ArPH]<sup>–</sup> (C) 1193
- Phosphorus heterocycles
  - A C<sub>2v</sub>-Symmetric Barbaralane (C) 3429
  - Amphiphilicity: A Characteristic Reactivity Principle of  $\pi$ -Bound Phosphorus Heterocycles (C) 4047
  - Design Optimization of 1,3-Diphospho-2,4-diboretane Diradicals (C) 3894
  - Intramolecular [3 + 2] Cycloaddition of a Nitrilium Phosphane Ylide Complex to the *P*-Phenyl Group of a Wittig Ylide (C) 1186
  - Phosphorus Heterocycles: From Laboratory Curiosities to Ligands in Highly Efficient Catalysts (M) 563
- Phosphorylation
  - Synthesis of the Protein Phosphatase 2A Inhibitor (4*S*,5*S*,6*S*,10*S*,11*S*,12*S*)-Cytostatin (C) 1748
- Photoacoustics
  - Real-Time Photoacoustic Parallel Detection of Products from Catalyst Libraries (C) 2966
- Photoactivation
  - Photoactivatable Synthetic Ras Proteins: “Baits” for the Identification of Plasma-Membrane-Bound Binding Partners of Ras (C) 2546
- Photoaffinity labels
  - Tetrafunctional Photoaffinity Labels Based on Nakanishi’s *m*-Nitroalkoxy-Substituted Phenyltrifluoromethyl diazirine (C) 2293
- Photochemistry
  - Activation of Alkanes upon Reaction with PhI(OAc)<sub>2</sub>–I<sub>2</sub> (C) 2556
  - Asymmetric Photochemistry and Photochirogenesis (M) 3147
  - Cavity-Directed, Highly Stereoselective [2 + 2] Photodimerization of Olefins within Self-Assembled Coordination Cages (C) 1347
  - Characterization and Photochemistry of the Gallium and Indium Subhydrides Ga<sub>2</sub>H<sub>2</sub> and In<sub>2</sub>H<sub>2</sub> (C) 796
  - Formation of a Nonaoxirane from A2E, a Lipofuscin Fluorophore related to Macular Degeneration, and Evidence of Singlet Oxygen Involvement (C) 814
  - Light-Controlled Nitric Oxide Generation from a Novel Self-Assembled Monolayer on a Gold Surface (C) 1914
  - Luminescence Phenomena and Solid-State Structures of Trimethyl- and Triethylgallium (C) 2519
  - Multiple Emissions from 1,3-Diphenyl-5-pyrenyl-2-pyrazoline Nanoparticles: Evolution from Molecular to Nanoscale to Bulk Materials (C) 962
  - Near-UV Photoionization of [Ru(bpy)<sub>3</sub>]<sup>2+</sup>: A Catalytic Cycle with an Excited Species as Catalyst (C) 1535
  - Photochemical Formation of Tire-Shaped Molybdenum Blues: Topology of a Defect Anion, [Mo<sub>142</sub>O<sub>432</sub>H<sub>28</sub>(H<sub>2</sub>O)<sub>58</sub>]<sup>12–</sup> (C) 466
  - Rearrangement of 3-Rhoda-1,2-dioxolanes to Rhodium Formylmethyl Hydroxy Complexes (C) 575
  - Reversible Binding of C<sub>60</sub> to an Anthracene Bearing a Dendritic Poly(amidoamine) Substituent to give a Water-Soluble Fullerodendrimer (C) 817
  - Reversible Photoinsertion of Ferrocene into a Hydrophobic Semiconductor Surface: A Chemionic Switch (C) 3653
  - Ruthenium Photocatalysts Capable of Reversibly Storing up to Four Electrons in a Single Acceptor Ligand: A Step Closer to Artificial Photosynthesis (C) 3185
  - Synthesis of Metal Nanoparticles by Using Polyoxometalates as Photocatalysts and Stabilizers (C) 1911
  - Tetrafunctional Photoaffinity Labels Based on Nakanishi’s *m*-Nitroalkoxy-Substituted Phenyltrifluoromethyl diazirine (C) 2293

- Using Molecular Symmetry to Form New Drugs: Hydroxymethyl-Substituted 3,9-Diazatetraasteranes as the First Class of Symmetric MDR Modulators (C) 3623
- Photochirogenesis**
  - Asymmetric Photochemistry and Photochirogenesis (M) 3147
- Photochromism**
  - Enantioselective Photochromic Reaction of a [2.2]Metacyclopentan-1-ene (C) 2156
- Photodynamic therapy**
  - Introduction of Bulky Perfluoroalkyl Groups at the Periphery of Zinc Perfluorophthalocyanine: Chemical, Structural, Electronic, and Preliminary Photo-physical and Biological Effects (C) 747
- Photoelectron spectroscopy**
  - Experimental Observation and Confirmation of Icosahedral  $W@Au_{12}$  and  $Mo@Au_{12}$  Molecules (C) 4786
  - ZEKE Photoelectron Spectroscopy of the *cis* and *trans* Isomers of Formanilide (C) 166
- Photoionization**
  - Barrier Height Titration by Tunable Photoionization Combined with Chemical Monitoring: Unimolecular Keto/Enol Tautomerization of the Acetamide Cation Radical (C) 2748
- Photoisomerization**
  - Unidirectional Photoinduced Shuttling in a Rotaxane with a Symmetric Stilbene Dumbbell (C) 1769
- Photolability**
  - The First Non-Heme Iron(III) Complex with a Ligated Carboxamido Group That Exhibits Photolability of a Bound NO Ligand (C) 2512
- Photolyases**
  - A (6-4) Photolyase Model: Repair of DNA (6-4) Lesions Requires a Reduced and Deprotonated Flavin (C) 767
  - Weak Distance Dependence of Excess Electron Transfer in DNA (C) 1763
- Photolysis**
  - Characterization and Photochemistry of the Silane–Aluminum Complex  $Al \cdot SiH_4$  and Its Photoproducts  $HAISiH_3$  and  $AlSiH_3$  in a Solid Argon Matrix (C) 1538
  - Fluorescence Spectroscopic Quantification of the Release of Cyclic Nucleotides from Photocleavable [Bis(carboxymethoxy)coumarin-4-yl]methyl Esters inside Cells (C) 3625
  - The Elusive Terminal Imido of Manganese(V) (C) 3591
- Photooxidation**
  - Dynamics and Energetics of Hole Trapping in DNA by 7-Deazaguanine (C) 1026
- Photosynthesis**
  - Biomimetic Model of a Plant Photosystem Consisting of a Recombinant Light-Harvesting Complex and a Terrylene Dye (C) 3378
  - Comparison of Reorganization Energies for Intra- and Intermolecular Electron Transfer (C) 2344
- Photosystem II**
  - Long-Distance Magnetic Interaction between a  $Mn^{III}Mn^{IV}$  ( $S = 1/2$ ) Core and an Organic Radical: A Spectroscopic Model for the  $S_2Y_z$  State of Photosystem II (C) 4775
- pH sensors**
  - Novel pH-Reporter MRI Contrast Agents (C) 4334
- Phthalocyanines**
  - An Axially Bridged Indium Phthalocyanine Dimer with an In–In Bond (C) 3239
  - *cis* and *trans* Forms of a Binuclear Subphthalocyanine (C) 2565
  - Introduction of Bulky Perfluoroalkyl Groups at the Periphery of Zinc Perfluorophthalocyanine: Chemical, Structural, Electronic, and Preliminary Photo-physical and Biological Effects (C) 747
  - Synthesis and Structure of a Biconcave Cobalt Perfluorophthalocyanine and Its Catalysis of Novel Oxidative Carbon–Phosphorus Bonds Formation by Using Air (C) 750
  - Synthesis, Separation, and Characterization of the Topoisomers of Fused Bicyclic Subphthalocyanine Dimers (C) 2561
- Phytases**
  - The Adrenaline Test for Enzymes (C) 1229
- Picosecond spectroscopy**
  - Dynamics and Energetics of Hole Trapping in DNA by 7-Deazaguanine (C) 1026
- $\pi$  Interactions**
  - Ambiphilicity: A Characteristic Reactivity Principle of  $\pi$ -Bound Phosphorus Heterocycles (C) 4047
  - Anion– $\pi$  Interactions: Do They Exist? (C) 3389
  - Enantiomeric Self-Recognition of a Facial Amphiphile Triggered by  $[Pd(ONO_2)(en)]_2$  (C) 1905
  - Molecular Clips that Undergo Heterochiral Aggregation and Self-Sorting (C) 4028
  - On the Interaction between N-Heterocyclic Carbenes and Organic Acids: Structural Authentication of the First N–H...C Hydrogen Bond and Remarkably Short C–H...O Interactions (C) 1432
  - Towards A DNA-Like Duplex without Hydrogen-Bonded Base Pairs (C) 3203
- Pinacol**
  - What Is a Discovery? Carbon Skeletal Rearrangements as Counter-Examples to the Rule of Minimal Structural Change (E) 4655
- Platinum**
  - A Combined Effect of Molecular Electrostatic Potential and N7 Accessibility Explains Sequence-Dependent Binding of *cis*- $[Pt(NH_3)_2(H_2O)_2]^{2+}$  to DNA Duplexes (C) 2998
  - A Dynamic Rearrangement of a Metal Cluster in a Process that Closely Resembles the Hopping Mechanism of Adatom Diffusion on Metal Surfaces (C) 1951
  - An Analogue of Cymantrene  $[(\eta^5-C_5H_5)Mn(CO)_3]$  That Contains a Dime-talladithiacyclopentadienyl ring (C) 3034
  - A *trans*-Platinum(II) Complex as a Single-Molecule Insulator (C) 1183
  - Control of H–C( $sp^3$ ) Bond Cleavage Stoichiometry: Clean Reversible Alkyl Ligand Exchange with Alkane in  $[LPt(Alk)(H)_2]^+$  ( $L = [2.1.1]-(2,6)$ -Pyridinophane) (C) 4102
  - Coordinative Unsaturation in Platinum(IV) Chemistry: From Proposed Reaction Intermediates to the First Structurally Characterized Complexes (H) 261
  - First Evidence of Fast S–H...S Proton Transfer in a Transition Metal Complex (C) 2776
- Metallabenzenes and Valence Isomers. Synthesis and Characterization of a Plat-inabenzene (C) 3470**
- Nanoscopic Pt Colloids in the “Embry-onic State” (C) 4041**
- Real-time Observation of the H/D Ex-change Reaction between Ethylene and Hydrogen on Pt(111) (C) 146**
- $sp$  Carbon Chains Surrounded by  $sp^3$  Carbon Double Helices: A Class of Molecules that are Accessible by Self-Assembly and Models for “Insulated” Molecular-Scale Devices (C) 1871**
- The Effect of a Hydroxy Protecting Group on the  $PtCl_2$ -Catalyzed Cycliza-tion of Diynes—A Novel, Efficient, and Selective Synthesis of Carbocycles (C) 2132**
- The First Disulfur and Diselenium Com-plexes of Platinum: Syntheses and Crys-tal Structures (C) 136**
- Vapor-Induced Luminescence Switching in Crystals of the *Syn* Isomer of a Dinu-clear (Bipyridine)platinum(II) Complex Bridged with Pyridine-2-Thiolate Ions (C) 3183**
- P ligands**
  - A Chiral 1,2-Bisphospholane Ligand with a Novel Structural Motif: Applica-tions in Highly Enantioselective Rh-Catalyzed Hydrogenations (C) 1612
  - Ambiphilicity: A Characteristic Reactiv-ity Principle of  $\pi$ -Bound Phosphorus Heterocycles (C) 4047
  - A Method for Palladium-Catalyzed Cross-Couplings of Simple Alkyl Chlor-ides: Suzuki Reactions Catalyzed by  $[Pd_2(dba)_3]/PCy_3$  (C) 1945
  - A New Type of Chainlike Tetranuclear Rhodium Complexes with  $PR_3$  and  $AsMe_3$  as Bridging Ligands (C) 2301
  - An Umpolung Approach to *cis*-Hyponi-trite Complexes (C) 2371
  - Diastereoselective Lithiation of ( $\eta^6$ -Ar-ene)dicarbonyltriphenylphosphane Chromium(o) Oxazoline Complexes—Direct Preparation of Enantiopure Com-plexes Having Planar Chiral Fragments of Either Configuration (C) 3884
  - Heterogeneous Pd-Catalyzed Asymme-tric Allylic Substitution Using Resin-Supported Trost-Type Bisphosphane Li-gands (C) 3852
  - Kinetically Controlled Protonation of a Cyclic Phosphamethanide Complex to a PH-Phosphonium Ylide (C) 3367
  - Methyleneimine  $CH_2=NH$  as a Uniden-tate Ligand in Rhenium Complexes (C) 2192
  - Migration of a Phosphane Ligand be-tween the Two Metal Centers in Diru-thenium Hydrido Complexes (C) 2994
  - Mono- and Bidentate Phosphinanes—New Chiral Ligands and Their Applica-tion in Catalytic Asymmetric Hydro-genations (C) 612
  - Monodentate Chiral Spiro Phosphora-midites: Efficient Ligands for Rhodium-Catalyzed Enantioselective Hydrogena-tion of Enamides (C) 2348
  - Naphtho[1,8-*b,c*]phosphite and 1,2-Di-phosphaacenaphthene from the Reac-tion of 1,8-Dithionaphthalene with  $RPdCl_2$  (C) 3897
  - New Ferrocenyl Ligands with Broad Applications in Asymmetric Catalysis (C) 4708
  - Novel 1,4-Diphosphanes with Imidazoli-din-2-one Backbones as Chiral Ligands: Highly Enantioselective Rh-Catalyzed

- Hydrogenation of Enamides (C) 847
- Pentaphosphaferrocene as a Linking Unit for the Formation of One- and Two-Dimensional Polymers (C) 1737
  - Phosphorus Heterocycles: From Laboratory Curiosities to Ligands in Highly Efficient Catalysts (M) 563
  - $P_2$ -Ligand Complexes as Building Blocks for the Formation of One-Dimensional Polymers (C) 783
  - Proton-Coupled Electron Transfer from Phosphorus: A P–H/P–D Kinetic Isotope Effect of 178 (C) 1395
  - The Decaphosphatitanocene Dianion—A New Chapter in the Chemistry of Naked Polyphosphorus Ligands (H) 2723
  - The First Disulfur and Diselenium Complexes of Platinum: Syntheses and Crystal Structures (C) 136
- Polar order
- The Consequences of Chirality in Crowded Arenes—Macromolecular Helicity, Hierarchical Ordering, and Directed Assembly (C) 2828
- Polyaniline
- Direct Assembly of Large Arrays of Oriented Conducting Polymer Nanowires (C) 3665
- Polyanions
- A Four-Step Alternating Reductive Dimerization/Bond Cleavage of Indenocorannulene (C) 1712
  - Cubane with a Handle:  $[[In_3As_4Nb]-As]^{7-}$  in  $Cs_7NbIn_3As_5$  (C) 1232
- Polycations
- SASAPOS, not Sisyphe: Highly Efficient 20-Step One-Pot Synthesis of a Discrete Organic–Inorganic Ion Cluster with a Porphyrin Core (C) 3815
- Polycycles
- A Four-Step Alternating Reductive Dimerization/Bond Cleavage of Indenocorannulene (C) 1712
  - Biomimetic Model of a Plant Photosystem Consisting of a Recombinant Light-Harvesting Complex and a Terrylene Dye (C) 3378
  - Concise Total Synthesis of (–)-Fronodosin B Using a Novel Palladium-Catalyzed Cyclization (C) 1569
  - Facile Construction of the Colchicine Skeleton By a Rhodium-Catalyzed Cyclization/Cycloaddition Cascade (C) 1524
  - Synthesis of *cis,cis,cis*-[5.5.5]-1-Aza-fenestrane (C) 4122
  - 1,2,3,5-Tetrahydro-1,2,3-methenopent-1-ene, a Valence Isomer of Isoindene: Synthesis and Diels–Alder Reactions (C) 2969
  - Transannular Radical Cascade as an Approach to the Diastereoselective Synthesis of Linear Triquinane (C) 3284
- Polyelectrolytes
- Novel Capsules with High Stability and Controlled Permeability by Hierarchic Templating (C) 4019
  - Spontaneous Deposition of Water-Soluble Substances into Microcapsules: Phenomenon, Mechanism, and Application (C) 3789
- Polyketides
- Biosynthesis of Polyunsaturated Fatty Acids by Polyketide Synthases (H) 1866
  - Stereocontrolled Total Synthesis of Apicularen A and Its  $\Delta^{17,18}$  Z Isomer (C) 3701
  - The Determination of the Absolute Configurations of Diastereomers of (S)-Camphanoyl 3-Hydroxy-5-oxohexanoic Acid Derivatives by X-ray Crystallography (C) 1198
- Polymerase chain reaction
- Tuning PCR Specificity by Chemically Modified Primer Probes (C) 4766
- Polymerization
- A Helical Array of Pendant Fullerenes on an Optically Active Polyphenylacetylene (C) 3602
  - A Nanoporous Metal–Organic Framework Based on Bulky Phosphane Ligands (C) 764
  - Aqueous Catalytic Polymerization of Olefins (R) 544
  - Electrodeposition of Redox Polymers and Co-Electrodeposition of Enzymes by Coordinative Crosslinking (C) 810
  - Formation of a Butadienenickel-Based Zwitterionic Single-Component Catalyst for Ethylene Polymerization: An Alternative Activation Pathway for Homogeneous Ziegler–Natta Catalysts of Late Transition Metals (C) 2543
  - Gram-Scale Synthesis of Suspension-Polymerized Styrene–Divinylbenzene-Based Resins Using an Oscillatory Baffled Reactor (C) 3656
  - Iron-Catalyzed Polyethylene Chain Growth on Zinc: Linear  $\alpha$ -Olefins with a Poisson Distribution (C) 489
  - “Oscillating” Metallocene Catalysts: How Do They Oscillate? (C) 505
  - Polymeric Surfactants for the New Millennium: A pH-Responsive, Zwitterionic, Schizophrenic Diblock Copolymer (C) 1413
  - Polymerization on Solid Supports (C) 4567
  - Reaction Principles and Crystal Structure Design for the Topochemical Polymerization of 1,3-Dienes (C) 2502
  - Stereoselective Cyclopolymerization of 1,6-Heptadiynes: Access to Alternating *cis-trans*-1,2-(Cyclopent-1-enylene)vinyl- enes by Fine-Tuning of Molybdenum Imidoalkylidenes (C) 4044
  - Structural Characterization of a Cationic Zirconocene Olefin Polymerization Catalyst with its Methylated Boralumoxane Counterion (C) 2166
  - Synthesis, Characterization, and Modification of Hyperbranched Poly(arylene oxindoles) with a Degree of Branching of 100 % (C) 4547
  - Topochemical Polymerization of 7,7,8,8-Tetrakis(methoxycarbonyl)quinodimethane (C) 4306
- Polymer latex
- Aqueous Catalytic Polymerization of Olefins (R) 544
- Polymers
- An Enantiopure Molecular Ferromagnet (C) 586
  - Arene–Perfluoroarene Interactions as Physical Cross-Links for Hydrogel Formation (C) 1563
  - A Self-Generating, Highly Active, and Recyclable Olefin–Metathesis Catalyst (C) 3835
  - A Supramolecular Array of Fullerenes by Quadruple Hydrogen Bonding (C) 838
  - A Unique Bismuth–Iron Chain Polymer Containing the  $\cdots$ -Bi-Fe- $\cdots$  Link: Formation and Structure of  $[nBuBiFe(CO)_4]_{\infty}$  (C) 2384
  - Direct Assembly of Large Arrays of Oriented Conducting Polymer Nanowires (C) 3665
  - Dynamic Covalent Chemistry (R) 898
  - Corrigendum: 1460
  - Erodible Conducting Polymers for Potential Biomedical Applications (C) 141
  - Fabrication of Ultrafine Conducting Polymer and Graphite Nanoparticles (C) 4016
  - Facile Assembly of Cell Surface Oligosaccharide Mimics by Copolymerization of Carbohydrate Modules (C) 4463
  - From Self-Organizing Polymers to Nanohybrid and Biomaterials (R) 688
  - Giant Amphiphiles by Cofactor Reconstitution (C) 4239
  - Helical Chiral Polymers without Additional Stereogenic Units: A New Class of Ligands in Asymmetric Catalysis (C) 1614
  - Heterogeneous Pd-Catalyzed Asymmetric Allylic Substitution Using Resin-Supported Trost-Type Bisphosphane Ligands (C) 3852
  - High-Performance Fibers from Spider Silk (H) 2721
  - Macromolecules Containing Bipyridine and Terpyridine Metal Complexes: Towards Metallosupramolecular Polymers (R) 2892
  - Micelles and Hollow Nanospheres Based on  $\epsilon$ -Caprolactone-Containing Polymers in Aqueous Media (C) 2950
  - Modular, Well-Behaved Reversible Polymers from DNA-Based Monomers (C) 4026
  - pH-Responsive Molecular Nanocarriers Based on Dendritic Core-Shell Architectures (C) 4252
  - Poly(*p*-phenylenephosphalkene): A  $\pi$ -Conjugated Macromolecule Containing P=C Bonds in the Main Chain (C) 2389
  - [(salen)Al]-Mediated, Controlled and Stereoselective Ring-Opening Polymerization of Lactide in Solution and without Solvent: Synthesis of Highly Isotactic Polylactide Stereocopolymers from Racemic D,L-Lactide (C) 4510
  - Self-Assembly Using Organometallogenic Spacers in the Controlled Formation of Isomeric 1D and 2D Supramolecular Quinonoid Networks (C) 3650
  - Shape-Memory Polymers (R) 2034
  - Sigmatropic Shiftamers: Fluxionality in Broken Ladderane Polymers (C) 1033
  - Supramolecular Engineering with Macromolecules: An Alternative Concept for Block Copolymers (C) 3825
  - Synthesis, Characterization, and Modification of Hyperbranched Poly(arylene oxindoles) with a Degree of Branching of 100 % (C) 4547
  - Synthesis of Amphiphilic Conjugated Diblock Oligomers as Molecular Diodes (C) 3598
  - Corrigendum: 4612
  - Three-Dimensional Electronic Delocalization in Chiral Conjugated Polymers (C) 4225
  - Towards Main-Chain-Polyoxometalate-Containing Hybrid Polymers: A Highly Efficient Approach to Bifunctionalized Organoimido Derivatives of Hexamolybdates (C) 4129
  - Tuning the Electrical Conductivity and Self-Assembly of Regioregular Polythiophene by Block Copolymerization: Nanowire Morphologies in New Di- and Triblock Copolymers (C) 329
  - ULTRA Loaded Resins Based on the Cross-Linking of Linear Poly(ethylene imine). Improving the Atom Economy of Polymer-Supported Chemistry (C) 2975
  - Corrigendum: 3313

- $^1[\text{HgGe}_9]^{2-}$ —A Polymer with Zintl Ions as Building Blocks Covalently Linked by Heteroatoms (C) 3213
- Polymer-supported catalysts
  - Polymer-Supported  $\text{C}_2$ -Symmetric Ligands for Palladium-Catalyzed Asymmetric Allylic Alkylation Reactions (C) 4691
- Polymorphism
  - 4,4-Diphenyl-2,5-cyclohexadienone: Four Polymorphs and Nineteen Crystallographically Independent Molecular Conformations (C) 3848 Corrigendum: 4370
  - Polymorphic Forms of Rubidium Telluride  $\text{Rb}_2\text{Te}$  (C) 2725
  - Polymorphism in the Crystal Structure of the Cellulose Fragment Analogue Methyl 4-*O*-Methyl- $\beta$ -D-Glucopyranosyl-(1-4)- $\beta$ -D-Glucopyranoside (C) 4277
  - Preferential Location of Ge Atoms in Polymorph C of Beta Zeolite (ITQ-17) and Their Structure-Directing Effect: A Computational, XRD, and NMR Spectroscopic Study (C) 4722
  - Template Effects, Asymmetry, and Twinning in Helical Inclusion Compounds (C) 965
  - Topochemical Polymerization of 7,7,8,8-Tetrakis(methoxycarbonyl)quinodimethane (C) 4306
- Polyoxometalates
  - A Breathing Ionic Crystal Displaying Selective Binding of Small Alcohols and Nitriles:  $\text{K}_3[\text{Cr}_3\text{O}(\text{OOCH})_6(\text{H}_2\text{O})_3][\alpha\text{-SiW}_{12}\text{O}_{40}] \cdot 16\text{H}_2\text{O}$  (C) 2814
  - A Nanoscale Hybrid System Based on Gold Nanoparticles and Heteropolyanions (C) 501
  - A New Catalyst for the Selective Oxidation of Butane and Propane (C) 858
  - Bridging the Gap between Polyoxometalates and Classic Coordination Compounds: A Novel Type of Hexavanadate Complex (C) 2523
  - Changeable Pore Sizes Allowing Effective and Specific Recognition by a Molybdenum-Oxide Based “Nanosponge”: En Route to Sphere-Surface and Nanoporous-Cluster Chemistry (C) 3604
  - Heteropolymolybdates of  $\text{As}^{\text{III}}$ ,  $\text{Sb}^{\text{III}}$ ,  $\text{Bi}^{\text{III}}$ ,  $\text{Se}^{\text{IV}}$ , and  $\text{Te}^{\text{IV}}$  Functionalized by Amino Acids (C) 4070
  - Hybrid Molecular Dumbbells: Bridging Polyoxometalate Clusters with an Organic  $\pi$ -Conjugated Rod (C) 1566
  - Inorganic Chemistry Goes Protein Size: A  $\text{Mo}_{368}$  Nano-Hedgehog Initiating Nanochemistry by Symmetry Breaking (C) 1162
  - “Molecular Symmetry Breakers” Generating Metal-Oxide-Based Nanoobject Fragments as Synthons for Complex Structures:  $[\{\text{Mo}_{128}\text{Eu}_4\text{O}_{388}\text{H}_{10}(\text{H}_2\text{O})_{81}\}_2]^{20-}$ , a Giant-Cluster Dimer (C) 2805
  - $\text{Mo}^{\text{V}}$ /Pyrophosphate Polyoxometalate: An Inorganic Cryptate (C) 2808
  - Paramagnetic Keplerate “Necklaces” Synthesized by a Novel Room-Temperature Solid-State Reaction: Controlled Linking of Metal-Oxide-Based Nanoparticles (C) 579
  - Photochemical Formation of Tire-Shaped Molybdenum Blues: Topology of a Defect Anion,  $[\text{Mo}_{142}\text{O}_{432}\text{H}_{28}(\text{H}_2\text{O})_{58}]^{12-}$  (C) 466
  - $[\epsilon\text{-PMo}_{12}\text{O}_{36}(\text{OH})_4\{\text{La}(\text{H}_2\text{O})_4\}_4]^{5+}$ : The First  $\epsilon\text{-PMo}_{12}\text{O}_{40}$  Keggin Ion and Its Association with the Two-Electron-Reduced  $\alpha\text{-PMo}_{12}\text{O}_{40}$  Isomer (C) 2398
  - Polyoxomolybdenum(v) Sulfite Complexes: Synthesis, Structural, and Physical Studies (C) 2801
  - Synthesis of Metal Nanoparticles by Using Polyoxometalates as Photocatalysts and Stabilizers (C) 1911
  - Towards Main-Chain-Polyoxometalate-Containing Hybrid Polymers: A Highly Efficient Approach to Bifunctionalized Organoimido Derivatives of Hexamolybdates (C) 4129
- Polypropylene
  - “Oscillating” Metallocene Catalysts: How Do They Oscillate? (C) 505
- Polypyrroles
  - Erodible Conducting Polymers for Potential Biomedical Applications (C) 141
- Polyvalency
  - Icosahedral Virus Particles as Addressable Nanoscale Building Blocks (C) 459
  - Novel Glycodendrimers Self-Assemble to Nanoparticles which Function as Polyvalent Ligands In Vitro and In Vivo (C) 3195
- Porphyrinoids
  - Additivity and Quantification of Dispersive Interactions—from Cyclopropyl to Nitro Groups: Measurements on Porphyrin Derivatives (C) 1368
  - A Dendritic Porphyrin Receptor for  $\text{C}_{60}$  Which Features a Profound Positive Allosteric Effect (C) 2790
  - An Azulene Analogue of the Tripyranes and Carbaporphyrinoids Therefrom (C) 1371
  - A Self-Assembled Porphyrin Box from *meso*–*meso*-Linked Bis(5-*p*-pyridyl-15-(3,5-di-octyloxyphenyl))porphyrinato zinc(II) (C) 2817
  - Assignment of Stereochemistry of Facially Protected Bis-porphyrins by Use of a “Molecular Ruler” (C) 1709
  - Comparison of Reorganization Energies for Intra- and Intermolecular Electron Transfer (C) 2344
  - Controlled Hierarchical Self-Assembly and Deposition of Nanoscale Photonic Materials (C) 2117
  - Cyclo[8]pyrrole: A Simple-to-Make Expanded Porphyrin with No Meso Bridges (C) 1422
  - Designing Protein Denaturants: Synthetic Agents Induce Cytochrome *c* Unfolding at Low Concentrations and Stoichiometries (C) 641
  - Distal Cu Ion Protects Synthetic Heme/Cu Analogues of Cytochrome Oxidase against Inhibition by CO and Cyanide (C) 4139
  - Electrocatalytic  $\text{O}_2$  Reduction by Synthetic Analogues of the Heme/Cu Site of Cytochrome Oxidase Incorporated in a Lipid Film (C) 3487
  - Highly Diastereo- and Enantioselective Intramolecular Amidation of Saturated C–H Bonds Catalyzed by Ruthenium Porphyrins (C) 3465
  - Molecular Recognition of Carbohydrates through Directional Hydrogen Bonds by Urea-Appended Porphyrins in Organic Media (C) 2947
  - Octahedral Arrangement of Porphyrin Moieties around Hexarhenium(III) Cluster Cores: Structure of  $(\mu_3\text{-Selenido})\text{-hexa}(5\text{-(4-pyridyl)-10,15,20-tritolyldiporphyrin})\text{hexarhenium(III)} (2+)$  (C) 463
  - Phase-Sensitive Supramolecular Chirogenesis in Bisporphyrin Systems (C) 1378
  - SASAPOS, not Sisyphos: Highly Efficient 20-Step One-Pot Synthesis of a
- Discrete Organic–Inorganic Ion Cluster with a Porphyrin Core (C) 3815
- Sol–Gel Transcription of Sugar-Appended Porphyrin Assemblies into Fibrous Silica: Unimolecular Stacks versus Helical Bundles as Templates (C) 853
- The Elusive Terminal Imido of Manganese(v) (C) 3591
- Powder diffraction
  - C–H $\cdots$ O Hydrogen Bond Mediated Chain Reversal in a Peptide Containing a  $\gamma$ -Amino Acid Residue, Determined Directly from Powder X-ray Diffraction Data (C) 494
  - Structure of Bis(pentafluorophenyl)xenon,  $\text{Xe}(\text{C}_6\text{F}_5)_2$  (C) 448
- Prebiotic chemistry
  - Chirality of Living Systems: A Helping Hand from Crystals and Oligopeptides (M) 1139
- Preorganization
  - Guest Preorganization: An Alternative “Bioinspired” Paradigm in Host–Guest Chemistry (C) 3259
- Prodrugs
  - Proof of Principle in the Selective Treatment of Cancer by Antibody-Directed Enzyme Prodrug Therapy: The Development of a Highly Potent Prodrug (C) 759
- Proline
  - The Total Synthesis of (–)-Amathaspiramide F (C) 4556
- Propargylamines
  - Enantioselective Synthesis of Propargylamines by Copper-Catalyzed Addition of Alkynes to Enamines (C) 2535
- Proteases
  - An Azulene Dimer as a Near-Infrared Quencher (C) 3659
  - Synthesis of Neo-Peptidoglycans: An Unexpected Activity of Proteases (C) 2735
- Protecting groups
  - A Strategy for the Synthesis of Sulfated Peptides (C) 3449
  - Efficient Solid-Phase Synthesis of a Complex, Branched *N*-Glycan Hexasaccharide: Use of a Novel Linker and Temporary-Protecting-Group Pattern (C) 4489
  - How Attractive is Bromine as a Protecting Group in Aromatic Chemistry? (H) 1699
  - Small Interfering RNAs and Their Chemical Synthesis (H) 2265
  - Stereoselective Synthesis of  $\beta$ -D-Mannopyranosides with Reactive Mannopyranosyl Donors Possessing a Neighboring Electron-Withdrawing Group (C) 2972
  - Synthesis of Biologically Potent  $\alpha 1 \rightarrow 2$ -Linked Disaccharide Derivatives via Regioselective One-Pot Protection–Glycosylation (C) 2360
  - The (2-Phenyl-2-trimethylsilyl)ethyl(PTMSEL) Linker—A Novel Linker for the Solid-Phase Synthesis of Protected Peptides and Glycopeptides Cleavable with Fluoride (C) 317
  - Triazenes: A Versatile Tool in Organic Synthesis (R) 3338
- Protein aggregation
  - Molecular Chaperones—Cellular Machines for Protein Folding (R) 1098
- Protein cross-linking
  - Unexpected Carbonyl Mobility in Aminoketoses: The Key to Major Maillard Crosslinks (C) 801
- Protein design
  - High-Performance Fibers from Spider Silk (H) 2721

## Protein engineering

- A Bacterial Small-Molecule Three-Hybrid System (C) 2327
- Global Replacement of Tryptophan with Aminotryptophans Generates Non-Invasive Protein-Based Optical pH Sensors (C) 4066
- Photoactivatable Synthetic Ras Proteins: “Baits” for the Identification of Plasma-Membrane-Bound Binding Partners of Ras (C) 2546
- Screening and Selection Methods for Large-Scale Analysis of Protein Function (R) 4402

## Protein expression

- The Selective Incorporation of Alkenes into Proteins in *Escherichia coli* (C) 2840

## Protein folding

- A Crystalline  $\beta$ -Hairpin Peptide Nucleated by a Type I' Aib-D-Ala  $\beta$ -Turn: Evidence for Cross-Strand Aromatic Interactions (C) 3863
- Designing Protein Denaturants: Synthetic Agents Induce Cytochrome *c* Unfolding at Low Concentrations and Stoichiometries (C) 641
- Molecular Chaperones—Cellular Machines for Protein Folding (R) 1098
- The “Correctly Folded” State of Proteins: Is It a Metastable State? (E) 257

## Protein–ligand interactions

- Approaches to the Description and Prediction of the Binding Affinity of Small-Molecule Ligands to Macromolecular Receptors (R) 2644

## Protein models

- Structure–Function Analysis of Urotenisin II and Its Use in the Construction of a Ligand–Receptor Working Model (C) 2940

## Protein modifications

- The Selective Incorporation of Alkenes into Proteins in *Escherichia coli* (C) 2840

## Protein–protein interactions

- Oligomerization of p53 upon Cooperative DNA Binding: Towards a Structural Understanding of p53 Function (H) 1702

## Proteins

- Design of a Protein Surface Antagonist Based on  $\alpha$ -Helix Mimicry: Inhibition of gp41 Assembly and Viral Fusion (C) 278
- Electron-Transfer Dynamics of Cytochrome *C*: A Change in the Reaction Mechanism with Distance (C) 4700
- Fabrication of Carbohydrate Chips for Studying Protein–Carbohydrate Interactions (C) 3180
- Natural Products Are Biologically Validated Starting Points in Structural Space for Compound Library Development: Solid-Phase Synthesis of Dysidiolide-Derived Phosphatase Inhibitors (C) 307
- New Methods for Proteomic Research: Preparation of Proteins with N-Terminal Cysteines for Labeling and Conjugation (C) 2171
- Protein Affinity Labeling Mediated by Genetically Encoded Peptide Tags (C) 356
- Protein-Inspired Materials: Synthetic Concepts and Potential Applications (H) 1509
- Reporter Ribozymes for Real-Time Analysis of Domain-Specific Interactions in Biomolecules: HIV-1 Reverse Transcriptase and the Primer–Template Complex (C) 4263
- Spatially Directed Protein Adsorption by Using a Novel, Nanoscale Surface Template (C) 4303

- The “Correctly Folded” State of Proteins: Is It a Metastable State? (E) 257
- The Mechanical Properties of Human Angiostatin Can Be Modulated by Means of Its Disulfide Bonds: A Single-Molecule Force-Spectroscopy Study (C) 1546

## Protein structures

- A Crystalline  $\beta$ -Hairpin Peptide Nucleated by a Type I' Aib-D-Ala  $\beta$ -Turn: Evidence for Cross-Strand Aromatic Interactions (C) 3863
- De Novo Structure Determination from Residual Dipolar Couplings by NMR Spectroscopy (H) 437
- From Protein Domains to Drug Candidates—Natural Products as Guiding Principles in the Design and Synthesis of Compound Libraries (R) 2878
- Kinetics of a Reversible Covalent-Bond-Forming Reaction Observed at the Single-Molecule Level (C) 3707
- Molecular Chaperones—Cellular Machines for Protein Folding (R) 1098
- New Principles of Protein Structure: Nests, Eggs—and What Next? (H) 4663
- The Structures of Integrins and Integrin–Ligand Complexes: Implications for Drug Design and Signal Transduction (M) 3767

## Protein surface

- Designing Protein Denaturants: Synthetic Agents Induce Cytochrome *c* Unfolding at Low Concentrations and Stoichiometries (C) 641

## Proteomics

- A Bacterial Small-Molecule Three-Hybrid System (C) 2327
- New Methods for Proteomic Research: Preparation of Proteins with N-Terminal Cysteines for Labeling and Conjugation (C) 2171
- Screening and Selection Methods for Large-Scale Analysis of Protein Function (R) 4402

## Proteomimetics

- Design of a Protein Surface Antagonist Based on  $\alpha$ -Helix Mimicry: Inhibition of gp41 Assembly and Viral Fusion (C) 278

## Protonation

- A Model Nucleoside for Electron Injection into DNA: 5-Pyrenyl-2'-Deoxyribose (C) 2978
- Protonated Sulfuric Acid: Preparation of Trihydroxyoxosulfonium Hexafluoroantimonate  $\text{H}_3\text{SO}_4^+\text{SbF}_6^-$  (C) 111

## Proton transfer

- First Evidence of Fast S–H...S Proton Transfer in a Transition Metal Complex (C) 2776
- The Hydrogen Bond in the Solid State (R) 48

## Pseudomorphism

- Morphological Control of MCM-41 by Pseudomorphic Synthesis (C) 2590

## Pummerer reaction

- Sulfur-Functionalized Olefins for Titanacycle Formation: Tandem Asymmetric Cyclization and the Pummerer Reaction Based on Sulfoxides Promoted by Titanium(II)-to-Titanium(IV) Relay (C) 3671

## Pyrans

- Synthesis of Functionalized Pyrans by Domino Metathesis Reaction of Oxabicyclo Derivatives: Dramatic Effect of Remote Substituents on Reactivity and Selectivity (C) 4560

## Pyrazolylborates

- Guest Preorganization: An Alternative “Bioinspired” Paradigm in Host–Guest Chemistry (C) 3259

## Pyrophosphate

- Pyrophosphate Detection in Water by Fluorescence Competition Assays: Inducing Selectivity through the Choice of the Indicator (C) 3811



## Quaternary carbon centers

- Stereoselective Formation of Quaternary Carbon Centers: Alkylation of  $\alpha,\alpha$ -Disubstituted Amide Enolates (C) 2338

## Quenching

- Singlet Delta Oxygen Production from a Gas–Solid Reaction (C) 3252

## Quinamines

- Titanium-Promoted Stereoselective Synthesis of Hydroindolones from *p*-Quinamines by Domino Conjugate Additions (C) 2753

## Quinodimethanes

- Topochemical Polymerization of 7,7,8,8-Tetrakis(methoxycarbonyl)quinodimethane (C) 4306

## Quinones

- Enantioselective Total Synthesis of Angucyclinone-Type Antibiotics Rubiginones  $\text{A}_2$  and  $\text{C}_2$  (C) 2755
- Regiospecific Inverse-Electron-Demand Diels–Alder Reaction of Simultaneously Electrogenated Diene and Dienophile: An Expedient Route to Polyfunctionalized 1,4-Benzoxazine Derivatives (C) 824
- Self-Assembly Using Organometalloids as Spacers in the Controlled Formation of Isomeric 1D and 2D Supramolecular Quinonoid Networks (C) 3650
- Single-Step Assembly of a  $\text{C}_2$ -Symmetrical Palladium(IV) Spirocyclic Complex (C) 3662
- Synthesis, Structure, and Redox Properties of Diphosphathienoquinones (C) 2574



## Radical ions

- $\text{C}_6\text{K}$ -Promoted Self-Condensation and Self-Condensation-Cycloisomerization Reactions of  $\alpha,\beta$ -Unsaturated Fischer Carbene Complexes (C) 3442
- Synthesis, Structure, and Redox Properties of Diphosphathienoquinones (C) 2574
- The Ability of the  $\alpha,\alpha'$ -Diiminopyridine Ligand System to Accept Negative Charge: Isolation of Paramagnetic and Diamagnetic Trianions (C) 3873

## Radical reactions

- Allyl Sulfoxides as Precursors for Radical Two-Carbon Ring Expansion of Cyclobutanones (C) 4323
- A New Entry to the Stereoselective Introduction of an Ethynyl Group by a Radical Reaction: Synthesis of the Potential Antimetabolite 2'-Deoxy-2'-C-ethynyluridine (C) 4748

- A Radical Alternative to the Anionic Oxy-Cope Rearrangement (C) 4321
- A Short Synthesis of ( $\pm$ )-13-Deoxyser-ratine (C) 1783
- Cobalt-Catalyzed Coupling Reaction of Alkyl Halides with Allylic Grignard Reagents (C) 4137
- Convergent Synthesis of Silylated Allylic Alcohols by a Stereoselective Domino, Sequential Radical-Coupling Reaction (C) 1407
- First De Novo Synthesis of the Bisindole Alkaloid Vinblastine (H) 4217
- Fluoroformic Acid Anhydride, FC(O)O-C(O)F (C) 3832
- Intramolecular 1,8-Hydrogen Abstraction Between Glucopyranose Units in a Disaccharide Model Promoted by Alkoxy Radicals (C) 856
- Model Studies Towards Azadirachtin: Part 1. Construction of the Crowded C8–C14 Bond by Radical Chemistry (C) 2103
- Model Studies Towards Azadirachtin: Part 2. Construction of the Crowded C8–C14 Bond by Transition Metal Chemistry (C) 2107
- Radical Carboazidation of Alkenes: An Efficient Tool for the Preparation of Pyrrolidinone Derivatives (C) 3460
- Samarium Diiodide-Mediated Reductive Coupling of Epoxides and Carbonyl Compounds: A Stereocontrolled Synthesis of C-Glycosides from 1,2-Anhydro Sugars (C) 3242
- Stereoselective Synthesis of Tri- and Tetrasubstituted Olefins by Tandem Cyclization Addition Reactions Featuring Vinyl Radicals (C) 3206
- Tin-Free Radical-Mediated C–C-Bond Formations with Alkyl Allyl Sulfones as Radical Precursors (C) 3265
- Total Synthesis of Ambruticin (C) 176
- Radicals**
- A Method for Thermal Generation of Aryloxy Radicals at Ambient Temperatures: Application to Low-Density Lipoprotein (LDL) Oxidation (C) 804
- A New Trend in Phenalenyl Chemistry: A Persistent Neutral Radical, 2,5,8-Tri-*tert*-butyl-1,3-diazaphenalenyl, and the Excited Triplet State of the Gable *syn*-Dimer in the Crystal of Column Motif (C) 1793
- A Structural and Functional Model of Galactose Oxidase: Control of the One-Electron Oxidized Active Form through Two Differentiated Phenolic Arms in a Tripodal Ligand (C) 3047
- Atom-Transfer Tandem Radical Cyclization Reactions Promoted by Lewis Acids (C) 3014
- Design Optimization of 1,3-Diphospho-2,4-diborethane Diradicals (C) 3894
- Dinitroxide Carbenes, A New Class of Carbenes with Autotomolung Character: Preparation in Solution and Stabilization in Transition Metal Complexes (C) 311
- Investigation of Reactive Intermediates of Chemical Reactions in Solution by Electrospray Ionization Mass Spectrometry: Radical Chain Reactions (C) 2738
- Long-Distance Magnetic Interaction between a Mn<sup>III</sup>Mn<sup>IV</sup> ( $S = 1/2$ ) Core and an Organic Radical: A Spectroscopic Model for the S<sub>2</sub>Y<sub>z</sub> State of Photosystem II (C) 4775
- Mechanistic Studies of HPP Epoxidase: Configuration of the Substrate Governs Its Enzymatic Fate (C) 4529
- Odd-Electron Bonds and Biradicals in Main Group Element Chemistry (H) 4006
- 2,3,5,6-Tetrafluorophenylnitren-4-yl: A Quartet-Ground-State Nitrene Radical (C) 2742
- The Synthesis of the First Compound with Li–Si–Hg Bonding:  $[(\text{Li}(\text{iPr}_3\text{Si})_2\text{Si})_2\text{Hg}]$ —a Source for the  $[\text{Li}(\text{iPr}_3\text{Si})_2\text{Si}]^\cdot$  Radical (C) 649
- Transannular Radical Cascade as an Approach to the Diastereoselective Synthesis of Linear Triquinane (C) 3284
- Raman spectroscopy**
- A New Mononuclear Iron(III) Complex Containing a Peroxocarbonate Ligand (C) 1202
- Electron-Hole Pairs Stabilized in Al-ZSM-5 Zeolites (C) 1241
- Low-Temperature Destruction of Chlorinated Hydrocarbons over Lanthanide Oxide Based Catalysts (C) 4730
- The Absolute Configuration of Bromochlorofluoromethane (C) 4544
- The Structure of the Peroxo Species in the TS-1 Catalyst as Investigated by Resonant Raman Spectroscopy (C) 4734
- Reaction dynamics**
- Real-Time Single-Molecule Imaging of the Formation and Dynamics of Coordination Compounds (C) 4779
- Reaction mechanisms**
- A 1,3,5-Triaxial Triaminocyclohexane: The Triamine Corresponding to Kemp's Triacid (C) 2581
- Characterization of C<sub>2</sub> (C<sub>2</sub>H<sub>2</sub>) Intermediates from Adsorption and Decomposition of Methane on Supported Metal Catalysts by in situ INS Vibrational Spectroscopy (C) 144
- Hydroxylation of N-Heterocycle Ligands Observed in Two Unusual Mixed-Valence Cu<sup>I</sup>/Cu<sup>II</sup> Complexes (C) 1029
- Ligand Topology Tuning of Iron-Catalyzed Hydrocarbon Oxidations (C) 2179
- Mechanistic Studies of HPP Epoxidase: Configuration of the Substrate Governs Its Enzymatic Fate (C) 4529
- Migration of a Phosphane Ligand between the Two Metal Centers in Diruthenium Hydrido Complexes (C) 2994
- “Oscillating” Metallocene Catalysts: How Do They Oscillate? (C) 505
- Profound Steric Control of Reactivity in Aryl Halide Addition to Bisphosphane Palladium(0) Complexes (C) 1760
- Real-time Observation of the H/D Exchange Reaction between Ethylene and Hydrogen on Pt(111) (C) 146
- Remarkably Stable Tetrahedral Intermediates: Carbinols from Nucleophilic Additions to N-Acylpyrroles (C) 3188
- Traube's “Oxazomalonic Acid” is a 3-Hydroxysydnone Carboxylate with an E-ONNO Geometry (C) 2089
- Reactive intermediates**
- First Direct Observation of the Two Distinct Steps in an S<sub>N</sub>1 Reaction (C) 4493
- Investigation of Reactive Intermediates of Chemical Reactions in Solution by Electrospray Ionization Mass Spectrometry: Radical Chain Reactions (C) 2738
- Protonated Benzene: IR Spectrum and Structure of C<sub>6</sub>H<sub>7</sub><sup>+</sup> (C) 3628
- Stable Non-Push–Pull Phosphanylcarbenes: NMR Spectroscopic Characterization of a Methylcarbene (C) 2835
- Rearrangement**
- A C<sub>2v</sub>-Symmetric Barbaralane (C) 3429
- A Dynamic Rearrangement of a Metal Cluster in a Process that Closely Resembles the Hopping Mechanism of Adatom Diffusion on Metal Surfaces (C) 1951
- Baeyer–Villiger Oxidations with Hydrogen Peroxide in Fluorinated Alcohols: Lactone Formation by a Nonclassical Mechanism (C) 4481
- Concise and Efficient Total Synthesis of *Lycopodium* Alkaloid Magellanine (C) 4090
- Conversion of *arachno*-Nonaborane into Azanonaborane: Unexpected Loss of a Firmly Integrated Boron Atom (C) 4498
- Cyanamide Synthesis by the Palladium-Catalyzed Cleavage of a Si–N Bond (C) 1780
- Indenol Ether Formation from Aryl Alkynes Bearing *ortho*-Acetals: An Unprecedented Rearrangement in Palladium-Catalyzed Carboalkoxylation (C) 4328
- Mechanisms of Sulfanyl (RS) Migrations: Synthesis of Heterocycles (R) 2462
- Sigmatropic Shiftamers: Fluxionality in Broken Ladderane Polymers (C) 1033
- Stereoselective Pinacol-Type Rearrangement of 2,3-Epoxy Alcohols with Retention of Configuration Mediated by Bis(iodozincio)methane (C) 2837
- 1,2,3,5-Tetrahydro-1,2,3-methenopent-1-ene, a Valence Isomer of Isoindene: Synthesis and Diels–Alder Reactions (C) 2969
- The Total Synthesis of Proteasome Inhibitors TMC-95A and TMC-95B: Discovery of a New Method To Generate *cis*-Propenyl Amides (C) 512
- Total Synthesis of ( $\pm$ )-FR66979 (C) 4688
- Total Synthesis of ( $\pm$ )-Wortmannin (C) 4680
- What Is a Discovery? Carbon Skeletal Rearrangements as Counter-Examples to the Rule of Minimal Structural Change (E) 4655
- Receptors**
- A Highly Enantioselective Receptor for *N*-Protected Glutamate and Anomalous Solvent-Dependent Binding Properties (C) 4233
- Cyclotrehalins: Cyclooligosaccharide Receptors Featuring a Hydrophobic Cavity (C) 3674 Corrigendum: 4370
- Modular Building Blocks for Amino Acid Recognition in Peptides (C) 1751
- Mutually Induced Formation of Host–Guest Complexes between *p*-Sulfonated Calix[8]arene and Photolabile Cholinergic Ligands (C) 4706
- Selective Recognition of Fluoride Anion Using a Li<sup>+</sup>–Metallacrown Complex (C) 1419
- Transfer of Chiral Information through Achiral Ion Recognition by a Novel Pseudocrown Ether with a Binaphthyl Moiety (C) 481
- Redox chemistry**
- Biomimetic NAD<sup>+</sup> Models for Tandem Cofactor Regeneration, Horse Liver Alcohol Dehydrogenase Recognition of 1,4-NADH Derivatives, and Chiral Synthesis (C) 478
- Cyclotetrasilene Ion: A Reversible Redox System of Cyclotetrasilene Cation, Radical, and Anion (C) 1575
- Electrodeposition of Redox Polymers and Co-Electrodeposition of Enzymes by Coordinative Crosslinking (C) 810



- Photoresponsive Cyclic Bis(cysteiny)l-peptides as Catalysts of Oxidative Protein Folding (C) 289
- Proton-Induced, Reversible Evolution of  $O_2$  from the  $Os^{IV}$ –Sulfoximido Complex  $[Os^{IV}(tpy)(Cl)_2(NS(O)-3,5-Me_2C_6H_3)]$  (C) 2330
- Reversible Photoinsertion of Ferrocene into a Hydrophobic Semiconductor Surface: A Chemionic Switch (C) 3653
- Synthesis, Structure, and Redox Properties of Diphosphathienoquinones (C) 2574
- The Chemistry of the Oxychlorination Catalyst: an In Situ, Time-Resolved XANES Study (C) 2341
- Reduction**
  - Access to C-15 Macrocyclic Ketones by Iterative Fragmentations of a Tricyclic System (C) 4523
  - A Four-Step Alternating Reductive Dimerization/Bond Cleavage of Indenocorannulene (C) 1712
  - A Novel Rhodium-Catalyzed Reduction–Oxidation Process: Reaction of 4-Alkynals with Phenol to Provide *cis*-4-Alkenoates (C) 1607
  - Application of a New Family of P,N Ligands to the Highly Enantioselective Hydrosilylation of Aryl Alkyl and Dialkyl Ketones (C) 3892
  - Chemical Strategies for Iron Acquisition in Plants (M) 2259 Corrigendum: 4610
  - Copper-Catalyzed Reductive Alkylations of Enones: A Novel Transmetalation Protocol (C) 4580
  - Deracemization of  $\alpha$ -Methylbenzylamine Using an Enzyme Obtained by In Vitro Evolution (C) 3177
  - Electrochemical Modification of Single Carbon Nanotubes (C) 1353
  - Highly Enantioselective Preparation of Multifunctionalized Propargylic Building Blocks (C) 634
  - High-Throughput Screening of Enantioselective Catalysts by Immunoassay (C) 124
  - $[Os^{III}(tpy)(Cl)(NCCH_3)(NSAr)]$ : Reversible Reduction of Acetonitrile by  $Os^{III}$ –Sulfilimido Complexes (C) 3870
  - Polymerization on Solid Supports (C) 4567
  - Proton-Coupled Electron Transfer from Phosphorus: A P–H/P–D Kinetic Isotope Effect of 178 (C) 1395
  - The Asymmetric Meerwein–Schmidt–Ponndorf–Verley Reduction of Prochiral Ketones with *i*PrOH Catalyzed by Al Catalysts (C) 1020
  - The First Isolable 1,1-Dilithiogermane and Its Unusual Dimeric Structure—An Effective Reagent for the Preparation of Double-Bonded Derivatives of Group 14 Elements (C) 1598
  - The Mechanical Properties of Human Angiostatin Can Be Modulated by Means of Its Disulfide Bonds: A Single-Molecule Force-Spectroscopy Study (C) 1546
- Regioselectivity**
  - Addition of Ureas to Arynes: Straightforward Synthesis of Benzodiazepine and Benzodiazocine Derivatives (C) 3247
  - A Stereospecific Ruthenium-Catalyzed Allylic Alkylation (C) 1059
  - Cavity-Directed, Highly Stereoselective  $[2+2]$  Photodimerization of Olefins within Self-Assembled Coordination Cages (C) 1347
  - Designed Ligands as Probes for the Catalytic Binding Mode in Mo-Catalyzed Asymmetric Allylic Alkylation (C) 1929
  - Efficient and General Synthetic Approach to Pentasubstituted Conjugated Dienes Using Site-Selective Coupling of Cuprates with 1,4-Diiodo-1,3-alkadienes as the Key Reaction (C) 3023
  - Unprecedented Regiocontrol Using An Aldolase I Antibody (C) 1012
- Relativistic effects**
  - Relativity, Gold, Closed-Shell Interactions, and  $CsAu \cdot NH_3$  (M) 3573
- Relaxivity**
  - Compartmentalization of a Gadolinium Complex in the Apoferritin Cavity: A Route To Obtain High Relaxivity Contrast Agents for Magnetic Resonance Imaging (C) 1017
- Renewable raw materials**
  - 10 Years after Rio—Concepts on the Contribution of Chemistry to a Sustainable Development (R) 414
- Reporter systems**
  - A Molecular Beacon for Quantitative Monitoring of the DNA Polymerase Reaction in Real-Time (C) 3620
- Reverse transcriptase**
  - Reporter Ribozymes for Real-Time Analysis of Domain-Specific Interactions in Biomolecules: HIV-1 Reverse Transcriptase and the Primer–Template Complex (C) 4263
- Reversibility**
  - How Attractive is Bromine as a Protecting Group in Aromatic Chemistry? (H) 1699
- Rhenium**
  - An Analogue of Cymantrene  $[(\eta^5-C_5H_5)Mn(CO)_3]$  That Contains a Dime-talladithiacyclopentadienyl ring (C) 3034
  - A Remarkable 14-Nuclear  $Re^V Ag^I$  Coordination Oligomer Derived from a 2D  $(Re^V Ag^I)_n$  Coordination Polymer with D-Penicillamine (C) 4711
  - Insertion and Cycloaddition Reactivity of a Transition-Metal *N*-Metalloimine (C) 3858
  - Methyleneimine  $CH_2=NH$  as a Unidentate Ligand in Rhenium Complexes (C) 2192
  - Methyl Transfer from Rhenium to Coordinated Thiolate Groups (C) 3807
  - Observation of a H-Agostic Bond in a Highly Active Rhenium–Alkylidene Olefin Metathesis Heterogeneous Catalyst by Two-Dimensional Solid-State NMR Spectroscopy (C) 4535
  - Octahedral Arrangement of Porphyrin Moieties around Hexarhenium(III) Cluster Cores: Structure of  $(\mu_3-Selenido)-hexa(5-(4-pyridyl)-10,15,20-tritolylporphyrin)hexarhenium(III) (2+)$  (C) 463
  - Rhenium(VII) Oxo Complexes as Extremely Active Catalysts in the Dehydration of Primary Amides and Aldoximes to Nitriles (C) 2983
- Rhodium**
  - A Chiral 1,2-Bisphospholane Ligand with a Novel Structural Motif: Applications in Highly Enantioselective Rh-Catalyzed Hydrogenations (C) 1612
  - A New Method for the Synthesis of Cycloheptenones by Rh<sup>I</sup>-Catalyzed Intramolecular Hydroacylation of 4,6-Dienals (C) 1218
  - A New Type of Chainlike Tetranuclear Rhodium Complexes with  $PR_3$  and  $AsMe_3$  as Bridging Ligands (C) 2301
  - A Novel Rhodium-Catalyzed Reduction–Oxidation Process: Reaction of 4-Alkynals with Phenol to Provide *cis*-4-Alkenoates (C) 1607
  - Application of a New Family of P,N Ligands to the Highly Enantioselective Hydrosilylation of Aryl Alkyl and Dialkyl Ketones (C) 3892
  - $[(arene)Rh(cod)]^+$  Complexes as Catalysts for  $[5+2]$  Cycloaddition Reactions (C) 4550
  - Asymmetric Hydrogenations (Nobel Lecture) (R) 1998
  - Catalytic Enantioselective Synthesis of  $\beta^2$ -Amino Acids (C) 2197
  - Conversion of Hexafluoropropene into 1,1,1-Trifluoropropane by Rhodium-Mediated C–F Activation (C) 2745
  - Efficient and Selective Hydroacylation of 1-Alkynes with Aldehydes by a Chelation-Assisted Catalytic System (C) 2146
  - Facile Construction of the Colchicine Skeleton By a Rhodium-Catalyzed Cyclization/Cycloaddition Cascade (C) 1524
  - Highly Enantioselective Cycloisomerization of Enynes Catalyzed by Rhodium for the Preparation of Functionalized Lactams (C) 4526
  - Highly Enantioselective Rh-Catalyzed Intramolecular Alder–Ene Reactions for the Syntheses of Chiral Tetrahydrofurans (C) 3457
  - Novel 1,4-Diphosphanes with Imidazolidin-2-one Backbones as Chiral Ligands: Highly Enantioselective Rh-Catalyzed Hydrogenation of Enamides (C) 847
  - Rapid Phase Fluxionality as the Determining Factor in Activity and Selectivity of Highly Dispersed,  $Rh/Al_2O_3$  in  $deNO_x$  Catalysis (C) 2587
  - Rearrangement of 3-Rhoda-1,2-dioxolanes to Rhodium Formylmethyl Hydroxy Complexes (C) 575
  - Rhodium Tetracarbonyl Hydride: The Elusive Metal Carbonyl Hydride (C) 3785
  - Synthesis of Cycloalkanones from Dienes and Allylamines through C–H and C–C Bond Activation Catalyzed by a Rhodium(I) Complex (C) 3031
  - The Inhibiting Influence of Aromatic Solvents on the Activity of Asymmetric Hydrogenations (C) 777
  - Tuning Electronic Behavior of Carbonyl Metal Clusters by Substitution of Interstitial and Capping Atoms (C) 3685
- Ribozymes**
  - Reporter Ribozymes for Real-Time Analysis of Domain-Specific Interactions in Biomolecules: HIV-1 Reverse Transcriptase and the Primer–Template Complex (C) 4263
- Ring closure**
  - Selective Isomerization of a Terminal Olefin Catalyzed by a Ruthenium Complex: The Synthesis of Indoles through Ring-Closing Metathesis (C) 4732
- Ring expansion**
  - A Combined Intramolecular Diels–Alder/Intramolecular Schmidt Reaction: Formal Synthesis of  $(\pm)$ -Stenine (C) 4316
  - Allyl Sulfoxides as Precursors for Radical Two-Carbon Ring Expansion of Cyclobutanones (C) 4323
- Ring-opening polymerization**
  - Electronic and Steric Effects on Catalysts for  $CO_2$ /Epoxide Polymerization: Subtle Modifications Resulting in Superior Activities (C) 2599

- [Lewis Acid]<sup>+</sup>[Co(CO)<sub>4</sub>]<sup>-</sup> Complexes: A Versatile Class of Catalysts for Carbonylative Ring Expansion of Epoxides and Aziridines (C) 2781
- Protein-Inspired Materials: Synthetic Concepts and Potential Applications (H) 1509
- [(salen)Al]-Mediated, Controlled and Stereoselective Ring-Opening Polymerization of Lactide in Solution and without Solvent: Synthesis of Highly Isotactic Polylactide Stereocopolymers from Racemic D,L-Lactide (C) 4510
- Synthesis of A,B-Alternating Copolymers by Ring-Opening-Insertion-Metathesis Polymerization (C) 3839

## RNA

- Remarkable Cooperativity between a Zn<sup>II</sup> Ion and Guanidinium/Ammonium Groups in the Hydrolysis of RNA (C) 4013
- Reporter Ribozymes for Real-Time Analysis of Domain-Specific Interactions in Biomolecules: HIV-1 Reverse Transcriptase and the Primer–Template Complex (C) 4263
- Small Interfering RNAs and Their Chemical Synthesis (H) 2265

## RNA conformation equilibria

- RNA Two-State Conformation Equilibria and the Effect of Nucleobase Methylation (C) 605

## RNA–protein interactions

- Reporter Ribozymes for Real-Time Analysis of Domain-Specific Interactions in Biomolecules: HIV-1 Reverse Transcriptase and the Primer–Template Complex (C) 4263

## RNA recognition

- Bispyrene-Conjugated 2'-O-Methyloligonucleotide as a Highly Specific RNA-Recognition Probe (C) 3648

## RNA structures

- RNA Two-State Conformation Equilibria and the Effect of Nucleobase Methylation (C) 605

## Rotational spectroscopy

- Bismuthine BiH<sub>3</sub>: Fact or Fiction? High-Resolution Infrared, Millimeter-Wave, and Ab Initio Studies (C) 2550
- The Structure of Neutral Proline (C) 4673

## Rotaxanes

- Dynamic Covalent Chemistry (R) 898
- Corrigendum: 1460
- Unidirectional Photoinduced Shuttling in a Rotaxane with a Symmetric Stilbene Dumbbell (C) 1769

## Rubidium

- Polymorphic Forms of Rubidium Telluride Rb<sub>2</sub>Te (C) 2725

## Ruthenium

- A Dynamic Rearrangement of a Metal Cluster in a Process that Closely Resembles the Hopping Mechanism of Adatom Diffusion on Metal Surfaces (C) 1951
- A Highly Active and Air-Stable Ruthenium Complex for Olefin Metathesis (C) 794
- A Highly Efficient Ruthenium Catalyst for Metathesis Reactions (C) 4038
- Aminocyclopentadienyl Ruthenium Chloride: Catalytic Racemization and Dynamic Kinetic Resolution of Alcohols at Ambient Temperature (C) 2373
- An Efficient and Highly Enantio- and Diastereoselective Cyclopropanation of Olefins Catalyzed by Schiff-Base Ruthenium(II) Complexes (C) 2953

- An Efficient One-Pot Enantio- and Diastereoselective Synthesis of Heterocycles (C) 4693
- A New Highly Efficient Ruthenium Metathesis Catalyst (C) 2403
- A Novel Polymer-Supported Arene–Ruthenium Complex for Ring-Closing Olefin Metathesis (C) 2602
- A Practical and Highly Active Ruthenium-Based Catalyst that Effects the Cross Metathesis of Acrylonitrile (C) 4035
- A Self-Generating, Highly Active, and Recyclable Olefin-Metathesis Catalyst (C) 3835
- A Stereospecific Ruthenium-Catalyzed Allylic Alkylation (C) 1059
- Asymmetric Catalysis: Science and Opportunities (Nobel Lecture) (R) 2008
- A Triple-Decker Complex with a Central Metallabenzene (C) 1589
- Characterization of C<sub>2</sub> (C<sub>s</sub>H<sub>y</sub>) Intermediates from Adsorption and Decomposition of Methane on Supported Metal Catalysts by in situ INS Vibrational Spectroscopy (C) 144
- Crystal Engineering of Mixed-Metal Ru–Ag Coordination Networks by Using the *trans*-[RuCl<sub>2</sub>(pyz)<sub>2</sub>] (pyz = pyrazine) Building Block (C) 1907
- Direct Electrophilic Insertion into a Twelve-Vertex Metallocarborane (C) 4112
- Drastic Luminescence Response to Carbon Monoxide from a Ru<sup>II</sup> Complex Containing a Hemilabile Phosphane Pyrene Ether (C) 1898
- Ethane and Ethylidene Dicarboxylates from the Ruthenium(II)-Catalyzed “Disproportionative Addition” of Carboxylic Acids to Ethene (C) 3905
- Generation of Polyunsaturated Cumulene Chains by Unprecedented Insertions of the Ynamine MeC≡CNEt<sub>2</sub> in Ruthenium(II) Allenylidene Complexes (C) 3439
- Highly Diastereo- and Enantioselective Intramolecular Amidation of Saturated C–H Bonds Catalyzed by Ruthenium Porphyrins (C) 3465
- Migration of a Phosphane Ligand between the Two Metal Centers in Diruthenium Hydrido Complexes (C) 2994
- Near-UV Photoionization of [Ru(bpy)<sub>3</sub>]<sup>2+</sup>: A Catalytic Cycle with an Excited Species as Catalyst (C) 1535
- Rational Synthesis of Tetranuclear Ruthenium Polyhydride Clusters and Their Mixed-Ligand Analogues (C) 4085
- Reaction of 2-Butyne with *nido*-[1,2-(Cp\*<sub>2</sub>RuH)<sub>2</sub>B<sub>3</sub>H<sub>7</sub>]: Improved Kinetic Control Leads to Metallocarboranes of Novel Composition and Structure (C) 2578
- Ru<sup>II</sup> Complexes of “Large-Surface” Ligands (C) 4022
- Ruthenium-Catalyzed Oxidative Heck Reactions (C) 169
- Ruthenium Photocatalysts Capable of Reversibly Storing up to Four Electrons in a Single Acceptor Ligand: A Step Closer to Artificial Photosynthesis (C) 3185
- Supported Ruthenium Catalyst for the Heterogeneous Oxidation of Alcohols with Molecular Oxygen (C) 4538
- Supramolecular Engineering with Macromolecules: An Alternative Concept for Block Copolymers (C) 3825
- Synthesis of A,B-Alternating Copolymers by Ring-Opening-Insertion-Metathesis Polymerization (C) 3839

- Synthesis of  $\alpha$ -Methylene- $\gamma$ -butyrolactones: Ru-Catalyzed Cyclocarbonylation of Allenyl Aldehydes and Allenyl Ketones (C) 1584
- Synthesis of Functionalized Pyrans by Domino Metathesis Reaction of Oxabicyclo Derivatives: Dramatic Effect of Remote Substituents on Reactivity and Selectivity (C) 4560
- Total Synthesis of Amphidinolide T4 (C) 4763
- Total Synthesis of Woodrosin I (C) 2097
- Unprecedented Coupling of Allenylidene and Diynyl Metal Complexes: A Bimetallic Ruthenium System with a C<sub>7</sub> Conjugated Bridge (C) 4513



Sacks, Oliver

- An Omnivorous Curiosity, a Sense of Wonder, and a Taste for the Spectacular (E) 2059

## Samarium

- Complete Stereospecific Cyclopropanation of  $\alpha,\beta$ -Unsaturated Amides Promoted by Sm/CH<sub>2</sub>I<sub>2</sub> (C) 1917
- Samarium Diiodide-Induced Reductive Cross-Coupling of Nitrones with Aldehydes and Ketones (C) 1772
- Samarium Diiodide-Mediated Reductive Coupling of Epoxides and Carbonyl Compounds: A Stereocontrolled Synthesis of C-Glycosides from 1,2-Anhydro Sugars (C) 3242
- Stereoselective Total Synthesis of Muconin, an Antitumor Agent (C) 4751

## Sandwich complexes

- A Triple-Decker Complex with a Central Metallabenzene (C) 1589
- 1,1'-Ferrocenedi(amido) Chelate Ligands in Titanium and Zirconium Complexes (H) 956
- The Decaphosphatitanocene Dianion—A New Chapter in the Chemistry of Naked Polyphosphorus Ligands (H) 2723

## Saturation transfer

- Novel pH-Reporter MRI Contrast Agents (C) 4334

## Scandium

- Investigation of Reactive Intermediates of Chemical Reactions in Solution by Electrospray Ionization Mass Spectrometry: Radical Chain Reactions (C) 2738
- Pyrazolate Coordination Continues To Amaze—The New  $\mu\text{-}\eta^2\text{-}\eta^1$  Binding Mode and the First Case of Unidentate Coordination to a Rare Earth Metal (C) 3249
- Thermal Intramolecular Electron Transfer in a Ferrocene–Naphthoquinone Linked Dyad Promoted by Metal Ions (C) 620

## Scanning probe microscopy

- Discriminating Chiral Molecules of (*R*)-PPA and (*S*)-PPA in Aqueous Solution by ECSTM (C) 3408
- Ordered Langmuir–Blodgett Films of Amphiphilic  $\beta$ -Hairpin Peptides Imaged by Atomic Force Microscopy (C) 127
- Perfectly Straight Nanostructures of Metallosupramolecular Coordination-Polyelectrolyte Amphiphile Complexes on Graphite (C) 3681

- Preparation and Characterization of a Model Bimetallic Catalyst: Co–Pd Nanoparticles Supported on Al<sub>2</sub>O<sub>3</sub> (C) 4073
- Probing Fast Facilitated Ion Transfer across an Externally Polarized Liquid–Liquid Interface by Scanning Electrochemical Microscopy (C) 3445
- Real-Time Single-Molecule Imaging of the Formation and Dynamics of Coordination Compounds (C) 4779
- Structural Analysis of C<sub>60</sub> Trimers by Direct Observation with Scanning Tunneling Microscopy (C) 969
- Synthesis of Amphiphilic Conjugated Diblock Oligomers as Molecular Diodes (C) 3598 Corrigendum: 4612
- The Genesis of Molecular Electronics (R) 4378
- The Mechanical Properties of Human Angiostatin Can Be Modulated by Means of Its Disulfide Bonds: A Single-Molecule Force-Spectroscopy Study (C) 1546
- Visualization of Molecular Recognition Events on Microstructured Lipid-Membrane Compartments by In Situ Scanning Force Microscopy (C) 314
- Scavenger reagents
  - Total Synthesis of the Amaryllidaceae Alkaloid (+)-Plicamine and Its Unnatural Enantiomer by Using Solid-Supported Reagents and Scavengers in a Multi-step Sequence of Reactions (C) 2194
- Schiff bases
  - A Trigonal-Bipyramidal Ferric Aqua Complex with a Sterically Hindered Salen Ligand as a Model for the Active Site of Protocatechuate 3,4-Dioxygenase (C) 3638
  - Copper-Catalyzed Oxidative Heterocyclization by Atmospheric Oxygen (C) 2962
  - Direct Asymmetric Aldol Reactions of Glycine Schiff Base with Aldehydes Catalyzed by Chiral Quaternary Ammonium Salts (C) 4542
  - Silicon–Enamine Complexes: Penta-coordinate Silicon Compounds (C) 1732
- Science policy
  - Chemists and Biochemists during the National Socialist Era (R) 1310
- Scoring function
  - Approaches to the Description and Prediction of the Binding Affinity of Small-Molecule Ligands to Macromolecular Receptors (R) 2644
- Screening
  - A Method To Identify and Screen Libraries of Guests That Complex to a Synthetic Host (C) 1004
- Secondary building units
  - Infinite Secondary Building Units and Forbidden Catenation in Metal-Organic Frameworks (C) 284
- Selection
  - Screening and Selection Methods for Large-Scale Analysis of Protein Function (R) 4402
- Selective transport
  - Highly Selective Transport of Organic Compounds by Using Supported Liquid Membranes Based on Ionic Liquids (C) 2771
- Selenium
  - Are Ate Complexes True Intermediates in Lithium–Metalloid Exchange? Subtle Effects of Ion-Pair Structure in Lithium–Tellurium and Lithium–Selenium Exchange Reactions (C) 3436
  - Ionic Liquids Containing Anionic Selenium Species: Applications for the Oxidative Carbonylation of Aniline (C) 4300
  - Synthesis and Structures of Silver–Selenide Cluster Complexes [Ag<sub>4</sub>(SeiPr)<sub>4</sub>(dppm)<sub>2</sub>], [Ag<sub>8</sub>(SeEt)<sub>8</sub>(dppp)]<sub>∞</sub>, [Ag<sub>28</sub>Se<sub>6</sub>(SenBu)<sub>16</sub>(dppp)<sub>4</sub>], and [Ag<sub>124</sub>Se<sub>57</sub>(SePrBu)<sub>4</sub>Cl<sub>6</sub>(tBu<sub>2</sub>P(CH<sub>2</sub>)<sub>3</sub>PrBu)<sub>12</sub>] (C) 300
  - The First Disulfur and Diselenium Complexes of Platinum: Syntheses and Crystal Structures (C) 136
  - Three-Dimensional Organically Templated Open-Framework Transition Metal Selenites (C) 158
- Self-assembly
  - A Cucurbituril-Based Gyroscane: A New Supramolecular Form (C) 275
  - A 3D Open–Framework Indium Telluride and Its Selenide and Sulfide Analogues (C) 1959
  - A Model System Mimicking Glycosphingolipid Clusters to Quantify Carbohydrate Self-Interactions by Surface Plasmon Resonance (C) 1554
  - An Enantiomerically Pure Propeller-Shaped Supramolecular Capsule Based on the Stereospecific Self-Assembly of Two Chiral Tris(oxazoline) Ligands around Three Ag<sup>I</sup> Ions (C) 3174
  - An Inverted Metal–Organic Framework with Compartmentalized Cavities Constructed by Using an Organic Bridging Unit Derived from the Solid State (C) 2070
  - A Ring-in-Ring Complex (C) 270
  - A Self-Assembled Porphyrin Box from *meso*–*meso*-Linked Bis[5-*p*-pyridyl-15-(3,5-di-octyloxyphenyl)]porphyrinato zinc(II) (C) 2817
  - Assembly of a Nanoscale Chiral Ball through Supramolecular Aggregation of Bowl-Shaped Triangular Helicates (C) 4244
  - Assembly of a Truncated-Tetrahedral Chiral [M<sub>12</sub>(*u*-L)<sub>18</sub>]<sup>24+</sup> Cage (C) 2515
  - Attachment of Molecules at a Molecular Printboard by Multiple Host–Guest Interactions (C) 4467
  - Autonomous Movement and Self-Assembly (C) 652
  - Carbohydrate Arrays as Tools for Glycomics (H) 3583
  - Cation-Promoted Hierarchical Formation of Supramolecular Assemblies of Self-Organized Helical Molecular Components (C) 1195
  - Cavity-Directed, Highly Stereoselective [2 + 2] Photodimerization of Olefins within Self-Assembled Coordination Cages (C) 1347
  - Chirality Induction through the Reversible Catenation of Coordination Rings (C) 3269
  - Controlled Hierarchical Self-Assembly and Deposition of Nanoscale Photonic Materials (C) 2117
  - Controlled Release of a Dendritically Encapsulated Template Molecule (C) 3254
  - Creation of a Unique Self-Supported Pattern of Radially Aligned Semiconductor Ag<sub>2</sub>S Nanorods (C) 1932
  - Crystal Engineering of a Nanoscale Kagomé Lattice (C) 2821
  - Electron-Transfer Dynamics of Cytochrome C: A Change in the Reaction Mechanism with Distance (C) 4700
  - Enantiomeric Self-Recognition of a Facial Amphiphile Triggered by [[Pd(ONO<sub>2</sub>)(en)]<sub>3</sub>] (C) 1905
  - Foldamers as Dynamic Receptors: Probing the Mechanism of Molecular Association between Helical Oligomers and Rodlike Ligands (C) 325
  - From Self-Organizing Polymers to Nanohybrid and Biomaterials (R) 688
  - Hybrid Metallocoronates or One-Dimensional Oxo-Bridged Metal Strings by Self-Assembly—Coordination Number Controlled Product Formation (C) 304
  - Hydrogen-Bonded Helices in Crystals with Prescribed Organization (C) 1724
  - Immobilized Highly Charged Colloidal Crystals: A New Route to Three-Dimensional Mesoscale Structured Materials (C) 102
  - Inorganic Chemistry Goes Protein Size: A Mo<sub>368</sub> Nano-Hedgehog Initiating Nanochemistry by Symmetry Breaking (C) 1162
  - Irreversible Adsorption of Cellobiose, Ascorbic Acid, and Tyrosine to Hydrophobic Surfaces in Water and Their Separation by Molecular Stirring (C) 2730
  - Layer-By-Layer Deposition and Ordering of Low-Molecular-Weight Dye Molecules for Second-Order Nonlinear Optics (C) 3236
  - Mechanistic Features, Cooperativity, and Robustness in the Self-Assembly of Multicomponent Silver(I) Grid-Type Metalloarchitectures (C) 2760 Corrigendum: 3738
  - Micelle Formation and Antimicrobial Activity of Cholic Acid Derivatives with Three Permanent Ionic Head Groups (C) 4275
  - Micelles and Hollow Nanospheres Based on  $\epsilon$ -Caprolactone-Containing Polymers in Aqueous Media (C) 2950
  - Modular, Well-Behaved Reversible Polymers from DNA-Based Monomers (C) 4026
  - Molecular Clips that Undergo Heterochiral Aggregation and Self-Sorting (C) 4028
  - Molecular Encapsulation (R) 1488
  - Molecular Encapsulation of Anions in a Neutral Receptor (C) 3423
  - Monodisperse Surface Micelles of Nonpolar Amphiphiles in Langmuir Monolayers (C) 4331
  - Nonrelaxable Anisotropic Organization of Organic–Inorganic Hybrid Materials Induced by an Electric Field (C) 594
  - Novel Capsules with High Stability and Controlled Permeability by Hierarchic Templating (C) 4019
  - Ordered Langmuir–Blodgett Films of Amphiphilic  $\beta$ -Hairpin Peptides Imaged by Atomic Force Microscopy (C) 127
  - Per(6-amino-2-*O*-carboxymethyl-6-deoxy-3-*O*-methyl)- $\alpha$ -cyclodextrin: Helical Self-Assembly of a Polyionic Amino Acid into Nanotubes (C) 1715
  - Perfectly Straight Nanostructures of Metallosupramolecular Coordination-Polyelectrolyte Amphiphile Complexes on Graphite (C) 3681
  - Photochemical Formation of Tire-Shaped Molybdenum Blues: Topology of a Defect Anion, [Mo<sub>142</sub>O<sub>432</sub>H<sub>28</sub>(H<sub>2</sub>O)<sub>58</sub>]<sup>12–</sup> (C) 466
  - Polymeric Surfactants for the New Millennium: A pH-Responsive, Zwitterionic, Schizophrenic Diblock Copolymer (C) 1413
  - Real-Time Single-Molecule Imaging of the Formation and Dynamics of Coordination Compounds (C) 4779

- Rigid Lipid Membranes and Nanometer Clefts: Motifs for the Creation of Molecular Landscapes (R) 1828
- Self-Assembled, Deterministic Carbon Nanotube Wiring Networks (C) 353
- Self-Assembling Organic Nanotubes from Enantiopure Cyclo-*N,N'*-Linked Oligoureas: Design, Synthesis, and Crystal Structure (C) 1895
- Self-Assembly of Trigonal-Prismatic Metallogages Encapsulating  $\text{BF}_4^-$  or  $\text{CuI}_2^-$  as Anionic Guests: Structures and Mechanism of Formation (C) 3371
- Self-Assembly Using Organometallogenes as Spacers in the Controlled Formation of Isomeric 1D and 2D Supramolecular Quinonoid Networks (C) 3650
- Self-Complementary Metal Complexes Containing a DNA Base Pair (C) 1047
- Semiconductor Nanohelices Templated by Supramolecular Ribbons (C) 1705
- Shape Control of Thermodynamically Stable Cobalt Nanorods through Organometallic Chemistry (C) 4286
- Sol–Gel Transcription of Sugar-Appended Porphyrin Assemblies into Fibrous Silica: Unimolecular Stacks versus Helical Bundles as Templates (C) 853
- Solid-State and Solution Studies of a Tetrameric Capsule and Its Guests (C) 3793
- $\text{sp}^3$  Carbon Chains Surrounded by  $\text{sp}^3$  Carbon Double Helices: A Class of Molecules that are Accessible by Self-Assembly and Models for “Insulated” Molecular-Scale Devices (C) 1871
- Starched Carbon Nanotubes (C) 2508
- Supramolecular Organization of Oligopeptides, through Complexation with Surfactants (C) 2957
- Synthesis of Very Thin 1D and 2D  $\text{CdWO}_4$  Nanoparticles with Improved Fluorescence Behavior by Polymer-Controlled Crystallization (C) 2356
- The Consequences of Chirality in Crowded Arenes—Macromolecular Helicity, Hierarchical Ordering, and Directed Assembly (C) 2828
- Tuning the Electrical Conductivity and Self-Assembly of Regioregular Polythiophene by Block Copolymerization: Nanowire Morphologies in New Di- and Triblock Copolymers (C) 329
- Vesicular Nanostructures Prepared by Reactive Melt Blending (C) 2154
- Voltage-Driven Changes in Molecular Dipoles Yield Negative Differential Resistance at Room Temperature (C) 827
- Water-Soluble Stimuli-Responsive Vesicles from Peptide-Based Diblock Copolymers (C) 1339
- Self-deposition
  - Spontaneous Deposition of Water-Soluble Substances into Microcapsules: Phenomenon, Mechanism, and Application (C) 3789
- Semiconductors
  - A Patterned  $\text{TiO}_2$ (Anatase)/ $\text{TiO}_2$ (Rutile) Bilayer-Type Photocatalyst: Effect of the Anatase/Rutile Junction on the Photocatalytic Activity (C) 2811
  - DNA On Silicon Devices: On-Chip Synthesis, Hybridization, and Charge Transfer (C) 615
  - Formation of High-Quality CdS and Other II–VI Semiconductor Nanocrystals in Noncoordinating Solvents: Tunable Reactivity of Monomers (C) 2368
  - General Synthesis of Semiconductor Chalcogenide Nanorods by Using the Monodentate Ligand *n*-Butylamine as a Shape Controller (C) 4697
- Recent Advances in Synthesis and Applications of Transition Metal Containing Mesoporous Molecular Sieves (R) 214
- Reversible Photoinsertion of Ferrocene into a Hydrophobic Semiconductor Surface: A Chemionic Switch (C) 3653
- Voltage-Driven Changes in Molecular Dipoles Yield Negative Differential Resistance at Room Temperature (C) 827
- Semiempirical calculations
  - Oligo(phenylenevinylene)s with Terminal Donor–Acceptor Substitution (C) 292
- Semifluorinated alkanes
  - Monodisperse Surface Micelles of Nonpolar Amphiphiles in Langmuir Monolayers (C) 4331
- Sensors
  - A Europium-Ion-Based Luminescent Sensing Probe for Hydrogen Peroxide (C) 4495
  - A Highly Specific  $\text{Ca}^{2+}$ -Ion Sensor: Signaling by Exciton Interaction in a Rigid–Flexible–Rigid Bichromophoric “H” Foldamer (C) 1766
  - An Azulene Dimer as a Near-Infrared Quencher (C) 3659
  - A Selective Chromogenic Reagent for Nitrate (C) 1416
  - Colorimetric and Fluorometric Detection of Nucleic Acids Using Cationic Polythiophene Derivatives (C) 1548
  - Drastic Luminescence Response to Carbon Monoxide from a  $\text{Ru}^{\text{II}}$  Complex Containing a Hemilabile Phosphane Pyrene Ether (C) 1898
  - Dual Biosensing by Magneto-Controlled Bioelectrocatalysis (C) 1343
  - Fabrication of a Metal-Coated Three-Dimensionally Ordered Macroporous Film and its Application as a Refractive Index Sensor (C) 1153
  - Microporous Supramolecular Coordination Compounds as Chemosensory Photonic Lattices (C) 154
  - Naked-Eye Detection of Phosphate Ions in Water at Physiological pH: A Remarkably Selective and Easy-To-Assemble Colorimetric Phosphate-Sensing Probe (C) 3809
  - Naked-Eye Sensitive Detection of Immunoglobulin G by Enlargement of Au Nanoparticles In Vitro (C) 2176
  - Photochemical Sensing of  $\text{NO}_2$  with  $\text{SnO}_2$  Nanoribbon Nanosensors at Room Temperature (C) 2405
  - Pyrophosphate Detection in Water by Fluorescence Competition Assays: Inducing Selectivity through the Choice of the Indicator (C) 3811
  - Trifluoroacetophenone Derivatives as Amino Acid Selective Ionophores for the Potentiometric Determination of Phenylalanine (C) 3005
  - Vapor-Induced Luminescence Switching in Crystals of the *Syn* Isomer of a Dinuclear (Bipyridine)platinum(II) Complex Bridged with Pyridine-2-Thiolate Ions (C) 3183
- Separation processes
  - Dynamic Acylhydrazone Metal Ion Complex Libraries: A Mixed–Ligand Approach to Increased Selectivity in Extraction (C) 4096
  - Highly Selective Transport of Organic Compounds by Using Supported Liquid Membranes Based on Ionic Liquids (C) 2771
- Modern Separation Techniques for the Efficient Workup in Organic Synthesis (R) 3964
- Sequence determination
  - A Further Step towards Single-Molecule Sequencing: *Escherichia coli* Exonuclease III Degrades DNA that is Fluorescently Labeled at Each Base Pair (C) 3215
- Sequence selectivity
  - A Combined Effect of Molecular Electrostatic Potential and N7 Accessibility Explains Sequence-Dependent Binding of  $\text{cis-[Pt(NH}_3)_2(\text{H}_2\text{O})_2]^{2+}$  to DNA Duplexes (C) 2998
- Shape memory polymers
  - Shape-Memory Polymers (R) 2034
- Shape selectivity
  - Understanding Zeolite Catalysis: Inverse Shape Selectivity Revised (C) 2499
- Sialic acids
  - Enzymatic Generation and In Situ Screening of a Dynamic Combinatorial Library of Sialic Acid Analogues (C) 3405
  - Facile Assembly of Cell Surface Oligosaccharide Mimics by Copolymerization of Carbohydrate Modules (C) 4463
- Sialons
  - Spinel Sialons (C) 789
- Siderophores
  - Chemical Strategies for Iron Acquisition in Plants (M) 2259 Corrigendum: 4610
- Sigmatropic rearrangement
  - Allyl Sulfoxides as Precursors for Radical Two-Carbon Ring Expansion of Cyclobutanones (C) 4323
  - An Efficient Stereoselective Total Synthesis of DL-Sesquicillin, a Glucocorticoid Antagonist (C) 1434
  - A Radical Alternative to the Anionic Oxy-Cope Rearrangement (C) 4321
- Signal transduction
  - A Bacterial Small-Molecule Three-Hybrid System (C) 2327
  - Fluorescence Spectroscopic Quantification of the Release of Cyclic Nucleotides from Photocleavable [Bis(carboxymethoxy)coumarin-4-yl]methyl Esters inside Cells (C) 3625
  - Photoactivatable Synthetic Ras Proteins: “Baits” for the Identification of Plasma-Membrane-Bound Binding Partners of Ras (C) 2546
  - The Structures of Integrins and Integrin–Ligand Complexes: Implications for Drug Design and Signal Transduction (M) 3767
  - Transmembrane Signalling (C) 3878
- Silanes
  - A Pyridylsilyl Group Expands the Scope of Catalytic Intermolecular Pauson–Khand Reactions (C) 3481
  - Characterization and Photochemistry of the Silane–Aluminum Complex  $\text{Al}\cdot\text{SiH}_4$  and Its Photoproducts  $\text{HAlSiH}_3$  and  $\text{AlSiH}_3$  in a Solid Argon Matrix (C) 1538
  - $[\text{Ir}_4(\text{CO})_{12}]$ -Catalyzed Coupling Reaction of Imidazoles with Aldehydes in the Presence of a Hydrosilane to Give 2-Substituted Imidazoles (C) 2779
  - Simple Synthesis of Oligosilyl- $\alpha,\omega$ -dipotassium Compounds (C) 989
- Silastannylation
  - Palladium-Catalyzed Regio- and Diastereoselective Tandem Silastannylation/Allyl Addition of Allene Aldehydes and Allene Ketones: Synthesis of *cis* Cyclopentanols and Cyclohexanols (C) 343

## Silenes

- The First Isolable 4-Silatriafulvene (C) 1402

## Silica

- Chiral Templating of Silica–Lipid Lamellar Mesophase with Helical Tubular Architecture (C) 2988
- Nucleation of MCM-41 Nanoparticles by Internal Reorganization of Disordered and Nematic-Like Silica–Surfactant Clusters (C) 2151
- Room-Temperature Synthesis in Acidic Media of Large-Pore Three-Dimensional Bicontinuous Mesoporous Silica with *1a3d* Symmetry (C) 3876

## Silicates

- A One-Pot Synthesis of Chromophoric Silicate-Based Xerogels (C) 1729 Corrigendum: 3085
- Biomineralization in Diatoms Mediated through Peptide- and Polyamine-Assisted Condensation of Silica (H) 3167
- Color-Tunable Transparent Mesoporous Silica Films: Immobilization of One-Dimensional Columnar Charge-Transfer Assemblies in Aligned Silicate Nanochannels (C) 3414
- Morphological Control of MCM-41 by Pseudomorphic Synthesis (C) 2590
- Preferential Location of Ge Atoms in Polymorph C of Beta Zeolite (ITQ-17) and Their Structure-Directing Effect: A Computational, XRD, and NMR Spectroscopic Study (C) 4722
- Sol–Gel Transcription of Sugar-Appended Porphyrin Assemblies into Fibrous Silica: Unimolecular Stacks versus Helical Bundles as Templates (C) 853

## Silicon

- A Mass Spectrometry Based Direct-Binding Assay for Screening Binding Partners of Proteins (C) 646
- Arrays of Chemomechanically Patterned Patches of Homogeneous and Mixed Monolayers of 1-Alkenes and Alcohols on Single Silicon Surfaces (C) 2353
- A Spiropentasiladiene and Other Strained Silicon-Containing Rings (H) 1861
- Cyclotetrasilene Ion: A Reversible Redox System of Cyclotetrasilenylium Cation, Radical, and Anion (C) 1575
- DNA On Silicon Devices: On-Chip Synthesis, Hybridization, and Charge Transfer (C) 615
- Gallium Flux Synthesis of  $\text{Tb}_{3-x}\text{C}_2\text{Si}_8(\text{B}_{12})_3$ : A Novel Quaternary Boron-Rich Phase Containing  $\text{B}_{12}$  Icosahedra (C) 844
- Hierarchically Ordered Silica Mesophases Using Mixed Surfactant Systems as Templates (C) 3844
- Mechanism of the Transformation of Silica Precursor Solutions into Si-MFI Zeolite (C) 2558
- Mesophases of (Bio)Polymer–Silica Particles Inspire a Model for Silica Biomineralization in Diatoms (C) 1543
- Poly(*p*-phenylenephosphaalkene): A  $\pi$ -Conjugated Macromolecule Containing P=C Bonds in the Main Chain (C) 2389
- Silicon–Enamine Complexes: Pentacoordinate Silicon Compounds (C) 1732
- Synthesis and Structure of an Azatrisilacyclobutane and Its Precursor, a Novel Lithium Enamide Having a Tricyclic  $(\text{LiNSiO})_2$  Skeleton (C) 2568
- Taking Nanocasting One Step Further: Replicating CMK-3 as a Silica Material (C) 3489
- The First Isolable 4-Silatriafulvene (C) 1402

- The Synthesis of the First Compound with Li–Si–Hg Bonding:  $[\{\text{Li}(\text{iPr}_3\text{Si})_2\text{Si}\}_2\text{Hg}]$ —a Source for the  $[\text{Li}(\text{iPr}_3\text{Si})_2\text{Si}]^\cdot$  Radical (C) 649

- Titanium Silsesquioxanes Grafted on Three-Dimensionally Netted Polysiloxanes: Catalytic Ensembles for Epoxidation of Alkenes with Aqueous Hydrogen Peroxide (C) 637

- $[\text{Zn}_4(\text{thf})_4(\text{MeZn})_4(\text{O}_3\text{SiR})_4]$  ( $\text{R} = 2,6\text{-iPr}_2\text{C}_6\text{H}_3\text{N}(\text{SiMe}_3)_2$ ), A Compound Containing Trigonal-Planar, Tetrahedral, and Trigonal-Bipyramidal Metal Atoms: A New Route to Larger Aggregates (C) 1226

## Si ligands

- Electronic Structure and Bonding in Hexacoordinate Silyl–Palladium Complexes (C) 1953
- Hexakis(silyl)palladium(vi) or Palladium(II) with  $\eta^2$ -Disilane Ligands? (C) 1956
- Simple Synthesis of Oligosilyl- $\alpha,\omega$ -dipotassium Compounds (C) 989

## Siloxanes

- Chirality and Macroscopic Polar Order in a Ferroelectric Smectic Liquid-Crystalline Phase Formed by Achiral Polyphilic Bent-Core Molecules (C) 2408

## Silsesquioxanes

- Titanium Silsesquioxanes Grafted on Three-Dimensionally Netted Polysiloxanes: Catalytic Ensembles for Epoxidation of Alkenes with Aqueous Hydrogen Peroxide (C) 637

## Silver

- A Nanoporous Metal–Organic Framework Based on Bulky Phosphane Ligands (C) 764
- An Enantiomerically Pure Propeller-Shaped Supramolecular Capsule Based on the Stereospecific Self-Assembly of Two Chiral Tris(oxazoline) Ligands around Three  $\text{Ag}^+$  Ions (C) 3174
- A Remarkable 14-Nuclear  $\text{Re}_8^{\text{V}}\text{Ag}_6^{\text{I}}$  Coordination Oligomer Derived from a 2D  $(\text{Re}_2^{\text{V}}\text{Ag}_2^{\text{I}})_n$  Coordination Polymer with *D*-Penicillamine (C) 4711
- Creation of a Unique Self-Supported Pattern of Radially Aligned Semiconductor  $\text{Ag}_2\text{S}$  Nanorods (C) 1932
- Crystal Engineering of Mixed-Metal Ru–Ag Coordination Networks by Using the *trans*- $[\text{RuCl}_2(\text{pyz})_4]$  ( $\text{pyz} = \text{pyrazine}$ ) Building Block (C) 1907
- Facile Construction of Anionic Silver(I) Aggregates with Embedded Acetylide and Cyanide Ions (C) 4135
- Mechanistic Features, Cooperativity, and Robustness in the Self-Assembly of Multicomponent Silver(I) Grid-Type Metalloarchitectures (C) 2760 Corrigendum: 3738
- $\text{P}_2$ -Ligand Complexes as Building Blocks for the Formation of One-Dimensional Polymers (C) 783
- $[(\text{PPh}_3)\text{Ag}(\text{HCB}_{11}\text{Me}_{11})]$ : A Complex with Intermolecular  $\text{Ag}\cdots\text{H}_3\text{C}$  Interactions (C) 3694
- Syntheses and Crystal Structures of the New Ag–S Clusters  $[\text{Ag}_{70}\text{S}_{16}(\text{SPh})_{34}(\text{PhCO}_2)_4(\text{triphos})_4]$  and  $[\text{Ag}_{188}\text{S}_{94}(\text{PR}_3)_{30}]$  (C) 3818
- Synthesis and Characterization of  $\text{Ag}_2\text{NiO}_2$  Showing an Uncommon Charge Distribution (C) 643
- Synthesis and Structures of Silver–Selenide Cluster Complexes  $[\text{Ag}_4(\text{SeiPr})_4(\text{dppm})_2]$ ,  $[\text{Ag}_8(\text{SeEt})_8(\text{dppp})]_\infty$ ,  $[\text{Ag}_{28}\text{Se}_6(\text{SenBu})_{16}(\text{dppp})_4]$ , and  $[\text{Ag}_{124}\text{Se}_{57}]$

- $(\text{SePrBu}_2)_4\text{Cl}_6(\text{tBu}_2\text{P}(\text{CH}_2)_3\text{PrBu}_2)_{12}]$  (C) 300

## Silyl anions

- Simple Synthesis of Oligosilyl- $\alpha,\omega$ -dipotassium Compounds (C) 989

## Silylenes

- Synthesis and Structure of an Azatrisilacyclobutane and Its Precursor, a Novel Lithium Enamide Having a Tricyclic  $(\text{LiNSiO})_2$  Skeleton (C) 2568
- Unusual P=C Bond Cleavage by Double Dichlorosilylene Transfer from Trichlorosilyltrimethylgermane to *P*-Phosphan-yl Phosphaalkenes (C) 3829

## Silyl enol ethers

- Lewis Acid Promoted, O-Selective, Nucleophilic Addition of Silyl Enol Ethers to N=O bonds (C) 2986 Corrigendum: 3313

## Single-molecule studies

- A *trans*-Platinum(II) Complex as a Single-Molecule Insulator (C) 1183
- Detection of Individual p53-Autoantibodies by Using Quenched Peptide-Based Molecular Probes (C) 4769
- Kinetics of a Reversible Covalent-Bond-Forming Reaction Observed at the Single-Molecule Level (C) 3707
- Perfectly Straight Nanostructures of Metallosupramolecular Coordination-Polyelectrolyte Amphiphile Complexes on Graphite (C) 3681
- Real-Time Single-Molecule Imaging of the Formation and Dynamics of Coordination Compounds (C) 4779
- The Mechanical Properties of Human Angiostatin Can Be Modulated by Means of Its Disulfide Bonds: A Single-Molecule Force-Spectroscopy Study (C) 1546

## Singlet delta oxygen

- Singlet Delta Oxygen Production from a Gas–Solid Reaction (C) 3252

## Singlet oxygen

- Formation of a Nonaoxirane from A2E, a Lipofuscin Fluorophore related to Macular Degeneration, and Evidence of Singlet Oxygen Involvement (C) 814
- Reversible Binding of  $\text{C}_{60}$  to an Anthracene Bearing a Dendritic Poly(amido-amine) Substituent to give a Water-Soluble Fullerodendrimer (C) 817

## S ligands

- A Remarkable 14-Nuclear  $\text{Re}_8^{\text{V}}\text{Ag}_6^{\text{I}}$  Coordination Oligomer Derived from a 2D  $(\text{Re}_2^{\text{V}}\text{Ag}_2^{\text{I}})_n$  Coordination Polymer with *D*-Penicillamine (C) 4711
- $[(\text{C}_6\text{H}_5\text{S}_2)\text{Ni}(\mu\text{-S}_2)\text{Fe}(\text{CO})(\text{PMe}_3)_2]$ : A Dinuclear  $[\text{NiFe}]$  Complex Modeling the  $[(\text{RS})_2\text{Ni}(\mu\text{-SR})_2\text{Fe}(\text{CO})(\text{L})_2]$  Core of  $[\text{NiFe}]$  Hydrogenase Centers (C) 632
- First Evidence of Fast S–H $\cdots$ S Proton Transfer in a Transition Metal Complex (C) 2776
- Methyl Transfer from Rhenium to Coordinated Thiolate Groups (C) 3807
- Proton-Induced, Reversible Evolution of  $\text{O}_2$  from the  $\text{Os}^{\text{IV}}$ –Sulfoximido Complex  $[\text{Os}^{\text{IV}}(\text{tpy})(\text{Cl})_2\{\text{NS}(\text{O})\text{-3,5-Me}_2\text{C}_6\text{H}_3\}]$  (C) 2330
- Self-Complementary Metal Complexes Containing a DNA Base Pair (C) 1047

## Small ring systems

- A Spiropentasiladiene and Other Strained Silicon-Containing Rings (H) 1861
- Catalytic, Enantioselective Syntheses of  $\beta$ -Lactones—Versatile Synthetic Building Blocks in Organic Chemistry (H) 744
- Cyclotetrasilene Ion: A Reversible Redox System of Cyclotetrasilenylium Cation, Radical, and Anion (C) 1575

- Naphtho[1,8-*b,c*]phosphete and 1,2-Diphosphaacenaphthene from the Reaction of 1,8-Dilithionaphthalene with  $\text{RPhCl}_2$  (C) 3897
- Preparation of New Functionalized Cyclopropylmagnesium Reagents (C) 351
- Synthesis of the Dibismuthene Complex  $[\{\mu-\eta^2\text{-}(cis\text{-Me}_3\text{SiCH}_2\text{Bi})_2\}[\text{W}(\text{CO})_5]_2]$  from a Cyclobismuthane and  $[\text{W}(\text{CO})_5(\text{thf})]$  (C) 2309
- The First Isolable 1,1-Dilithiogermane and Its Unusual Dimeric Structure—An Effective Reagent for the Preparation of Double-Bonded Derivatives of Group 14 Elements (C) 1598
- Total Syntheses and Structures of Angular [6]- and [7]Phenylene: The First Helical Phenylenes (Heliphenes) (C) 3223
- Total Syntheses of Angular [7]-, [8]-, and [9]Phenylene by Triple Cobalt-Catalyzed Cycloisomerization: Remarkably Flexible Heliphenes (C) 3227
- Sodium**
  - Directed *ortho*-Metalation, a New Insight into Organosodium Chemistry (C) 340
  - $\text{Mo}^{\text{V}}$ /Pyrophosphate Polyoxometalate: An Inorganic Cryptate (C) 2808
- Soft lithography**
  - Visualization of Molecular Recognition Events on Microstructured Lipid-Membrane Compartments by In Situ Scanning Force Microscopy (C) 314
- Soft materials**
  - Micro/Nanoengineering of the Self-Organized Three-Dimensional Fibrous Structure of Functional Materials (C) 3641 Corrigendum: 4610
- Sol–gel processes**
  - A One-Pot Synthesis of Chromophoric Silicate-Based Xerogels (C) 1729 Corrigendum: 3085
  - A Patterned  $\text{TiO}_2$ (Anatase)/ $\text{TiO}_2$ (Rutile) Bilayer-Type Photocatalyst: Effect of the Anatase/Rutile Junction on the Photocatalytic Activity (C) 2811
  - A Three-Phase Emulsion/Solid-Heterogenization Method for Transport and Catalysis (C) 4132
  - Ligand Design and Bioconjugation of Colloidal Gold Nanoparticles (C) 3218
  - Nonrelaxable Anisotropic Organization of Organic–Inorganic Hybrid Materials Induced by an Electric Field (C) 594
  - Sol–Gel Transcription of Sugar-Appended Porphyrin Assemblies into Fibrous Silica: Unimolecular Stacks versus Helical Bundles as Templates (C) 853
- Solid electrolytes**
  - Water-Insoluble Lanthanum Oxochloride-Based Solid Electrolytes with Ultra-High Chloride Ion Conductivity (C) 3890
- Solid-phase synthesis**
  - A Strategy for the Synthesis of Sulfated Peptides (C) 3449
  - Efficient and Simple Solid-Phase Synthesis of Short Cyclic Oligodeoxynucleotides Bearing a Phosphorothioate Linkage (C) 3704
  - Efficient Solid-Phase Synthesis of a Complex, Branched *N*-Glycan Hexasaccharide: Use of a Novel Linker and Temporary-Protecting-Group Pattern (C) 4489
  - Fluorescence Enhancement through Enzymatic Cleavage of Internally Quenched Dendritic Peptides: A Sensitive Assay for the AspN Endoprotease (C) 3233
  - From Protein Domains to Drug Candidates—Natural Products as Guiding Principles in the Design and Synthesis of Compound Libraries (R) 2878
  - Generation of Libraries of Pharmacophoric Structures with Increased Complexity and Diversity by Employing Polymorphic Scaffolds (C) 3677
  - Induction of Cell Differentiation in Transformed Keratinocytes by Synthetic (Glyco)peptides from the Homophilic Recognition Domain of E-Cadherin (C) 4249
  - Microwave-Assisted Reactions in Organic Synthesis—Are There Any Nonthermal Microwave Effects? (H) 1863
  - Natural Products Are Biologically Validated Starting Points in Structural Space for Compound Library Development: Solid-Phase Synthesis of Dysidiolide-Derived Phosphatase Inhibitors (C) 307
  - Peptide-Templated Saccharide Synthesis on a Solid Support (C) 1215
  - Polymerization on Solid Supports (C) 4567
  - Protein-Inspired Materials: Synthetic Concepts and Potential Applications (H) 1509
  - Solid-Phase Synthesis and Biological Evaluation of a Peptidocinnamin E Library (C) 3616
  - The First Polymer-Supported and Recyclable Chiral Catalyst for Enantioselective Olefin Metathesis (C) 589
  - The First Total Synthesis of Efrapeptin C (C) 4267
  - The (2-Phenyl-2-trimethylsilyl)ethyl(PMTSEL) Linker—A Novel Linker for the Solid-Phase Synthesis of Protected Peptides and Glycopeptides Cleavable with Fluoride (C) 317
  - Total Synthesis of the Nematicidal Cyclododecapeptide Omphalotin A by Using Racemization-Free Triphosgene-Mediated Couplings in the Solid Phase (C) 2307
  - Traceless Solid-Phase Synthesis of 2-Aminothiazoles: Receptor Tyrosine Kinase Inhibitors with Dual Selectivity for Tie-2 and VEGFR-2 (C) 4757
  - Triazenes: A Versatile Tool in Organic Synthesis (R) 3338
  - ULTRA Loaded Resins Based on the Cross-Linking of Linear Poly(ethylene imine). Improving the Atom Economy of Polymer-Supported Chemistry (C) 2975 Corrigendum: 3313
- Solid-state chemistry**
  - A Concept for Synthesis Planning in Solid-State Chemistry (R) 3746
- Solid-state reactions**
  - A Concept for Synthesis Planning in Solid-State Chemistry (R) 3746
  - Ambiphilicity: A Characteristic Reactivity Principle of  $\pi$ -Bound Phosphorus Heterocycles (C) 4047
  - A New Crystal Modification of Chromium Tetrafluoride:  $\beta\text{-CrF}_4$  (C) 1398
  - $\text{Na}_3\text{N}$ —An Original Synthetic Route for a Long Sought After Binary Nitride (H) 1701
  - Reaction Principles and Crystal Structure Design for the Topochemical Polymerization of 1,3-Dienes (C) 2502
  - Structural Analysis of  $\text{C}_{60}$  Trimers by Direct Observation with Scanning Tunneling Microscopy (C) 969
  - Synthesis and Structure of  $\text{Na}_3\text{N}$  (C) 1755
  - Ultrastable and Highly Acidic, Zeolite-Coated Mesoporous Aluminosilicates (C) 1036
- Solid-state structures**
  - A Reactive Intermediate in the Synthesis of Iron Arsenates: Synthesis of the First One-Dimensional Iron Arsenate Oxalate and Its Transformation into Two- and Three-Dimensional Iron Arsenates (C) 1224
  - A Spiropentasiladiene and Other Strained Silicon-Containing Rings (H) 1861
  - A Springlike 3D-Coordination Network That Shrinks or Swells in a Crystal-to-Crystal Manner upon Guest Removal or Readsorption (C) 3392
  - Chemically Tuning between Ferromagnetism and Antiferromagnetism by Combining Theory and Synthesis in Iron/Manganese Rhodium Borides (C) 2528
  - Crystal Structure Analysis of 1,1,4,4-Tetrafluorobutadiene and Experimental Determination of the Charge Density of 1,1,4,4-Tetrafluorobutatriene (C) 296
  - Crystal Structure of  $\text{K}_2[\text{C}_2\text{O}_6]$ —First Proof of Existence and Constitution of a Peroxodicarbonate Ion (C) 1922
  - Crystal-to-Crystal Sliding of 2D Coordination Layers Triggered by Guest Exchange (C) 3395
  - Cubane with a Handle:  $[\{\text{In}_3\text{-As}_4\text{Nb}\}\text{-As}]^{7-}$  in  $\text{Cs}_7\text{NbIn}_3\text{As}_5$  (C) 1232
  - Design of a Bilayer Structure in an Organic Inclusion Compound (C) 2181
  - $\text{Ln}_{13}\text{Br}_{18}\text{B}_3$  ( $\text{Ln} = \text{Gd}, \text{Tb}$ )—A Compound Containing a Combination of Discrete and Condensed Clusters (C) 4257
  - Luminescence Phenomena and Solid-State Structures of Trimethyl- and Triethylgallium (C) 2519
  - Nitridoborates of the Lanthanides: Synthesis, Structure Principles, and Properties of a New Class of Compounds (R) 3322
  - Phase-Sensitive Supramolecular Chirogenesis in Bisporphyrin Systems (C) 1378
  - $[\varepsilon\text{-PMo}_{12}\text{O}_{36}(\text{OH})_4[\text{La}(\text{H}_2\text{O})_4]_4]^{5+}$ : The First  $\varepsilon\text{-PMo}_{12}\text{O}_{40}$  Keggin Ion and Its Association with the Two-Electron-Reduced  $\alpha\text{-PMo}_{12}\text{O}_{40}$  Isomer (C) 2398
  - Polymorphic Forms of Rubidium Telluride  $\text{Rb}_2\text{Te}$  (C) 2725
  - Recent Advances in Synthesis and Applications of Transition Metal Containing Mesoporous Molecular Sieves (R) 214
  - Self-Assembling Organic Nanotubes from Enantiopure Cyclo-*N,N'*-Linked Oligoureas: Design, Synthesis, and Crystal Structure (C) 1895
  - Self-Assembly of Trigonal-Prismatic Metallocages Encapsulating  $\text{BF}_4^-$  or  $\text{CuI}_3^{2-}$  as Anionic Guests: Structures and Mechanism of Formation (C) 3371
  - Solid-State NMR Spectroscopic Methods in Chemistry (R) 3096
  - Synthesis and Structures of Silver–Selenide Cluster Complexes  $[\text{Ag}_4(\text{SeiPr})_4(\text{dppm})_2]$ ,  $[\text{Ag}_8(\text{SeEt})_8(\text{dppp})_\infty]$ ,  $[\text{Ag}_{28}\text{-Se}_6(\text{SenBu})_{16}(\text{dppp})_4]$ , and  $[\text{Ag}_{124}\text{Se}_{57}(\text{SePrBu})_4\text{Cl}_6(\text{tBu}_2\text{P}(\text{CH}_2)_3\text{PrBu}_2)_{12}]$  (C) 300
  - Two  $[\text{Nb}_6\text{Cl}_9\text{O}_3(\text{CN})_6]^{5-}$  Isomer Anions in Two  $\text{Nb}_6$  Cluster Oxyhalides:  $\text{Cs}_5[\text{Nb}_6\text{Cl}_9\text{O}_3(\text{CN})_6] \cdot 4\text{H}_2\text{O}$  and  $(\text{Me}_4\text{N})_5[\text{Nb}_6\text{Cl}_9\text{O}_3(\text{CN})_6] \cdot 5\text{H}_2\text{O}$  (C) 3002
  - Water-Insoluble Lanthanum Oxochloride-Based Solid Electrolytes with Ul-

- tra-High Chloride Ion Conductivity (C) 3890
- Wet Chemistry Synthesis of  $\beta$ -Nickel Aluminide NiAl (C) 599
  - Zinc(II) Slides on a Ligand Surface: The X-Ray Crystal Structure and Dynamic Behavior in Solution of [Zn(H<sub>2</sub>L)(tacn)] (C) 2076
- Solid-supported reagents
- Total Synthesis of the Amaryllidaceae Alkaloid (+)-Plicamine and Its Unnatural Enantiomer by Using Solid-Supported Reagents and Scavengers in a Multi-step Sequence of Reactions (C) 2194
- Solvated electrons
- Cesiumauride Ammonia (1/1), CsAu·NH<sub>3</sub>: A Crystalline Analogue to Alkali Metals Dissolved in Ammonia? (C) 120
  - Near-UV Photoionization of [Ru(bpy)<sub>3</sub>]<sup>2+</sup>: A Catalytic Cycle with an Excited Species as Catalyst (C) 1535
- Solvent effects
- Additivity and Quantification of Dispersive Interactions—from Cyclopropyl to Nitro Groups: Measurements on Porphyrin Derivatives (C) 1368
  - A Highly Enantioselective Receptor for *N*-Protected Glutamate and Anomalous Solvent-Dependent Binding Properties (C) 4233
  - A Method for Determining the Difference in Relative Apicophilicity of Carbon-Containing Substituents of 10-P-5 Phosphoranes (C) 4718
  - First Direct Observation of the Two Distinct Steps in an S<sub>N</sub>1 Reaction (C) 4493
  - Formation of High-Quality CdS and Other II–VI Semiconductor Nanocrystals in Noncoordinating Solvents: Tunable Reactivity of Monomers (C) 2368
  - Hydrogen Bonding Modulates the Selectivity of Enzymatic Oxidation by P450: Chameleon Oxidant Behavior by Compound I (C) 1947
  - Microwave-Assisted Reactions in Organic Synthesis—Are There Any Non-thermal Microwave Effects? (H) 1863
  - Pd<sup>0</sup>-Catalyzed Three-Component Tandem Double-Addition–Cyclization Reaction: Stereoselective Synthesis of *cis*-Pyrrolidine Derivatives (C) 4737
  - Remarkably Large Geometry Dependence of <sup>57</sup>Fe NMR Chemical Shifts (C) 2312
  - The First Water-Soluble Copper(I) Calix[6]arene Complex Presenting a Hydrophobic Ligand Binding Pocket: A Remarkable Model for Active Sites in Metalloenzymes (C) 1044
- Solvolysis
- First Direct Observation of the Two Distinct Steps in an S<sub>N</sub>1 Reaction (C) 4493
- Solvothermal synthesis
- General Synthesis of Semiconductor Chalcogenide Nanorods by Using the Monodentate Ligand *n*-Butylamine as a Shape Controller (C) 4697
  - Oxidic Nanotubes and Nanorods—Anisotropic Modules for a Future Nanotechnology (R) 2446
  - Solvothermal Synthesis, Crystal Structure, Thermal Stability, and Mössbauer Spectroscopic Investigation of the Mixed-Valent Thioantimonate(III,V) [Ni(dien)<sub>2</sub>]<sub>2</sub>Sb<sub>2</sub>S<sub>9</sub> (C) 4487
- Spectroelectrochemistry
- Electrochemical Modulation of Fluorophore Emission on a Nanostructured Gold Film (C) 2764
  - Ruthenium Photocatalysts Capable of Reversibly Storing up to Four Electrons in a Single Acceptor Ligand: A Step Closer to Artificial Photosynthesis (C) 3185
  - Structural Dependence of Redox-Induced Dimerization as Studied by In Situ ESR/UV/Vis-NIR Spectroelectrochemistry: The Fluoranthenopyracylene Oligomers (C) 2082
- Spherical homoaromaticity
- Spherical Homoaromaticity (C) 4309
- Sphingolipids
- Characterization of a  $\Delta^8$ -Sphingolipid Desaturase from Higher Plants: A Stereochemical and Mechanistic Study on the Origin of *E,Z* Isomers (C) 2298
- Spider silk
- High-Performance Fibers from Spider Silk (H) 2721
- Spinel phases
- Spinel Sialons (C) 789
- Spin–spin coupling
- Solid-State NMR Spectroscopic Methods in Chemistry (R) 3096
- Spiro compounds
- A Spiropentasiladiene and Other Strained Silicon-Containing Rings (H) 1861
  - Calixarene-Type Macrocycles by Oxidation of Phenols Related to Vitamin E (C) 1171
  - Monodentate Chiral Spiro Phosphoramidites: Efficient Ligands for Rhodium-Catalyzed Enantioselective Hydrogenation of Enamides (C) 2348
  - Synthesis, Characterization, and Modification of Hyperbranched Poly(arylene oxindoles) with a Degree of Branching of 100 % (C) 4547
  - Synthetic Studies on the Sulfur-Cross-Linked Core of Antitumor Marine Alkaloid, Discorhabdins: Total Synthesis of Discorhabdin A (C) 348
  - Total Synthesis of the Natural Enantiomer of (–)-Lepadiformine and Determination of Its Absolute Stereochemistry (C) 3017
- Square grids
- Noninterpenetrating Square-Grid Coordination Polymers With Dimensions of 25 × 25 Å<sup>2</sup> Prepared by Using *N,N'*-Type Ligands: The First Chiral Square-Grid Coordination Polymer (C) 583
- Stacking interactions
- Arene–Perfluoroarene Interactions as Physical Cross-Links for Hydrogel Formation (C) 1563
- Stannates
- Reactivity of Chalcogenostannate Salts: Unusual Synthesis and Structure of a Compound Containing Ternary Cluster Anions [Co<sub>4</sub>(μ<sub>4</sub>-Se)(SnSe<sub>4</sub>)<sub>4</sub>]<sup>10–</sup> (C) 4269
- Stereoelectronic effects
- Stereoselective Synthesis of  $\beta$ -D-Mannopyranosides with Reactive Mannopyranosyl Donors Possessing a Neighboring Electron-Withdrawing Group (C) 2972
- Stereoselectivity
- Conformational Locking of the Glycosyl Acceptor for Stereocontrol in the Key Step in the Synthesis of Heparin (C) 2128
  - Dearomatizing Disrotatory Electrocyclic Ring Closure of Lithiated *N*-Benzoyloxazolidines (C) 1049
  - Highly Selective Disaccharide Recognition by a Tricyclic Octaamide Cage (C) 4093
  - Preparation of New Functionalized Cyclopropylmagnesium Reagents (C) 351
  - [(salen)Al]-Mediated, Controlled and Stereoselective Ring-Opening Polymerization of Lactide in Solution and without Solvent: Synthesis of Highly Isotactic Poly(lactide Stereocopolymers from Racemic D,L-Lactide (C) 4510
- Stereospecificity
- Complete Stereospecific Cyclopropanation of  $\alpha,\beta$ -Unsaturated Amides Promoted by Sm/CH<sub>2</sub>I<sub>2</sub> (C) 1917
- Steric hindrance
- An Efficient Stereoselective Total Synthesis of DL-Sesquicillin, a Glucocorticoid Antagonist (C) 1434
  - A New Trend in Phenalenyl Chemistry: A Persistent Neutral Radical, 2,5,8-Tri-*tert*-butyl-1,3-diazaphenalenyl, and the Excited Triplet State of the Gable *syn*-Dimer in the Crystal of Column Motif (C) 1793
  - Model Studies Towards Azadirachtin: Part 1. Construction of the Crowded C8–C14 Bond by Radical Chemistry (C) 2103
  - Model Studies Towards Azadirachtin: Part 2. Construction of the Crowded C8–C14 Bond by Transition Metal Chemistry (C) 2107
  - Profound Steric Control of Reactivity in Aryl Halide Addition to Bisphosphane Palladium(0) Complexes (C) 1760
- Stilbene
- Unidirectional Photoinduced Shuttling in a Rotaxane with a Symmetric Stilbene Dumbbell (C) 1769
- Stille reaction
- Total Synthesis of the Presumed Amphidinolide A (C) 508
- Stopped-flow studies
- Low-Temperature Stopped-Flow Studies on the Reactions of Copper(II) Complexes and H<sub>2</sub>O<sub>2</sub>: The First Detection of a Mononuclear Copper(II)–Peroxo Intermediate (C) 4325
- Strained molecules
- “Polyunsaturated” Cyclophanes (H) 4003
  - Synthesis, X-ray Structure, and Properties of a Tetrabenzannelated 1,2,4,5-Cyclophane (C) 3688
  - Transannular Radical Cascade as an Approach to the Diastereoselective Synthesis of Linear Triquinane (C) 3284
- Stray light
- Comment on the Communication “Highly Efficient White Organic Electroluminescence from a Double-Layer Device Based on a Boron Hydroxyphenylpyridine Complex” by Wang et al. (L) 2273
  - Reply (L) 2274
- Structural bioinformatics
- New Principles of Protein Structure: Nests, Eggs—and What Next? (H) 4663
- Structural motifs
- New Principles of Protein Structure: Nests, Eggs—and What Next? (H) 4663
- Structure–activity relationships
- Control of H–C(sp<sup>3</sup>) Bond Cleavage Stoichiometry: Clean Reversible Alkyl Ligand Exchange with Alkane in [LPt(Alk)(H)<sub>2</sub>]<sup>+</sup> (L = [2.1.1]-(2,6)-Pyridinophane) (C) 4102
  - Molecular Chaperones—Cellular Machines for Protein Folding (R) 1098
  - NMR Reporter Screening for the Detection of High-Affinity Ligands (C) 3420
  - Rapid Phase Fluxionality as the Determining Factor in Activity and Selectivity of Highly Dispersed, Rh/Al<sub>2</sub>O<sub>3</sub> in deNO<sub>x</sub> Catalysis (C) 2587
  - Structure–Function Analysis of Urotensin II and Its Use in the Construction of a



- Ligand–Receptor Working Model (C) 2940
- The Core Structure of TMC-95A Is a Promising Lead for Reversible Proteasome Inhibition (C) 780
  - The Structures of Integrins and Integrin–Ligand Complexes: Implications for Drug Design and Signal Transduction (M) 3767
  - Using Molecular Symmetry to Form New Drugs: Hydroxymethyl-Substituted 3,9-Diazatetraasteranes as the First Class of Symmetric MDR Modulators (C) 3623
- Structure elucidation
- A High Nuclearity, Mixed-Valence Manganese(III,IV) Complex:  $[\text{Mn}_{21}\text{O}_{24}(\text{OMe})_8(\text{O}_2\text{CCH}_2\text{tBu})_{16}(\text{H}_2\text{O})_{10}]$  (C) 2506
  - A Method for Determining the Difference in Relative Apicophilicity of Carbon-Containing Substituents of 10-P-5 Phosphoranes (C) 4718
  - A New Crystal Modification of Chromium Tetrafluoride:  $\beta\text{-CrF}_4$  (C) 1398
  - A Triple-Decker Sandwich Complex of Barium (C) 2315
  - Bridging the Gap between Polyoxometalates and Classic Coordination Compounds: A Novel Type of Hexavanadate Complex (C) 2523
  - Charge-Density Study of Methane Di(triimido)sulfonic Acid  $\text{H}_2\text{C}[\text{S}(\text{NtBu})_2(\text{NHtBu})]_2$ —the NR Analogue of  $\text{H}_2\text{C}[\text{S}(\text{O})_2(\text{OH})]_2$  (C) 2079
  - C–H...O Hydrogen Bond Mediated Chain Reversal in a Peptide Containing a  $\gamma$ -Amino Acid Residue, Determined Directly from Powder X-ray Diffraction Data (C) 494
  - *cis* and *trans* Forms of a Binuclear Subphthalocyanine (C) 2565
  - Comment on the X-Ray Structure of Pentamethylcyclopentadienyl Cation (L) 2276
  - Crystal Structure of  $\text{K}_2[\text{C}_2\text{O}_6]$ —First Proof of Existence and Constitution of a Peroxodicarbonate Ion (C) 1922
  - De Novo Structure Determination from Residual Dipolar Couplings by NMR Spectroscopy (H) 437
  - 9,9-Dithiofluorene: The First Crystal-Structure Analysis of an  $\alpha,\alpha$ -Dilithiated Hydrocarbon (C) 4503
  - 4,4-Diphenyl-2,5-cyclohexadienone: Four Polymorphs and Nineteen Crystallographically Independent Molecular Conformations (C) 3848 Corrigendum: 4370
  - Direct Evidence for the Nonrandom Nature of Al Substitution in Zeolite ZSM-5: An Investigation by  $^{27}\text{Al}$  MAS and MQ MAS NMR (C) 469
  - Di-, Tri-, and Tetracopper(II) Complexes of a Pseudocalixarene Macrocyclic (C) 4553
  - Fluorobalhimycin—A New Chapter in Glycopeptide Antibiotic Research (C) 3383
  - Framework Topology of ERS-10 Zeolite (C) 4109
  - Heteropolymolybdates of  $\text{As}^{\text{III}}$ ,  $\text{Sb}^{\text{III}}$ ,  $\text{Bi}^{\text{III}}$ ,  $\text{Se}^{\text{IV}}$ , and  $\text{Te}^{\text{IV}}$  Functionalized by Amino Acids (C) 4070
  - Metallabenzenes and Valence Isomers. Synthesis and Characterization of a Platinabenzene (C) 3470
  - Metalloid Aluminum and Gallium Clusters: Element Modifications on the Molecular Scale? (R) 3532 Corrigendum: 4170
  - Molecular Composition of Liquid Sulfur (C) 3199
  - $\text{Na}_3\text{N}$ —An Original Synthetic Route for a Long Sought After Binary Nitride (H) 1701
  - On the Interaction between N-Heterocyclic Carbenes and Organic Acids: Structural Authentication of the First N–H...C Hydrogen Bond and Remarkably Short C–H...O Interactions (C) 1432
  - Polymorphic Forms of Rubidium Telluride  $\text{Rb}_2\text{Te}$  (C) 2725
  - Preferential Location of Ge Atoms in Polymorph C of Beta Zeolite (ITQ-17) and Their Structure-Directing Effect: A Computational, XRD, and NMR Spectroscopic Study (C) 4722
  - Rational Synthesis of Tetranuclear Ruthenium Polyhydride Clusters and Their Mixed-Ligand Analogues (C) 4085
  - Reactivity of Chalcogenostannate Salts: Unusual Synthesis and Structure of a Compound Containing Ternary Cluster Anions  $[\text{Co}_4(\mu_4\text{-Se})(\text{SnSe}_4)_4]^{10-}$  (C) 4269
  - Selective Measurements of a Nitroxide–Nitroxide Separation of 5 nm and a Nitroxide–Copper Separation of 2.5 nm in a Terpyridine-Based Copper(II) Complex by Pulse EPR Spectroscopy (C) 3907
  - Single-Step Assembly of a  $\text{C}_2$ -Symmetrical Palladium(IV) Spirocyclic Complex (C) 3662
  - Solid-State NMR Spectroscopic Methods in Chemistry (R) 3096
  - Solvothermal Synthesis, Crystal Structure, Thermal Stability, and Mössbauer Spectroscopic Investigation of the Mixed-Valent Thioantimonate(III,V)  $[\text{Ni}(\text{dien})_2]_2\text{Sb}_4\text{S}_9$  (C) 4487
  - Stable Helical Secondary Structure in Short-Chain  $N,N'$ -Linked Oligoureas Bearing Proteinogenic Side Chains (C) 1893
  - Statement (L) 2278
  - Structural Transitions in Clusters (R) 1468
  - Structure and Synthesis of the Natural Heptachloro-1'-methyl-1,2'-bipyrrrole (Q1) (C) 1740
  - Structure of Bis(pentafluorophenyl)xenon,  $\text{Xe}(\text{C}_6\text{F}_5)_2$  (C) 448
  - Syntheses and Crystal Structures of the New Ag–S Clusters  $[\text{Ag}_{70}\text{S}_{16}(\text{SPh})_{34}(\text{PhCO}_2)_4(\text{triphos})_4]$  and  $[\text{Ag}_{188}\text{S}_{94}(\text{PR}_3)_{30}]$  (C) 3818
  - Synthesis and Characterization of a Digermanium Analogue of an Alkyne (C) 1785
  - Synthesis and Characterization of the Neutral “Digallene”  $\text{Ar}'\text{GaGaAr}'$  and Its Reduction to  $\text{Na}_2\text{Ar}'\text{GaGaAr}'$  ( $\text{Ar}' = 2,6\text{-Dipp}_2\text{C}_6\text{H}_3$ ,  $\text{Dipp} = 2,6\text{-iPr}_2\text{C}_6\text{H}_3$ ) (C) 2842
  - Synthesis and Structure of  $\text{Na}_3\text{N}$  (C) 1755
  - Synthesis of the Dibismuthene Complex  $[\{\mu\text{-}\eta^2\text{-}(\text{cis-Me}_3\text{SiCH}_2\text{Bi})_2\}\{\text{W}(\text{CO})_5\}_2]$  from a Cyclobismuthane and  $[\text{W}(\text{CO})_5(\text{thf})]$  (C) 2309
  - The  $[\text{closo-2-CB}_6\text{H}_7]^-$  Ion: The First Representative of the 7-Vertex Monocarbaborane Series (C) 2126
  - The Diazonamides: The Plot Thickens (H) 2489
  - The Stable Pentamethylcyclopentadienyl Cation (C) 1429 Corrigendum: 1642
  - The Stable Pentamethylcyclopentadienyl Cation Remains Unknown (L) 2275
  - The Uronium/Guanidinium Peptide Coupling Reagents: Finally the True Uronium Salts (C) 441
  - Traube’s “Oxazomalonic Acid” is a 3-Hydroxysydnone Carboxylate with an *E*-ONNO Geometry (C) 2089
  - Unexpected Carbonyl Mobility in Aminoketoses: The Key to Major Maillard Crosslinks (C) 801
  - Vapor-Induced Luminescence Switching in Crystals of the *Syn* Isomer of a Dinuclear (Bipyridine)platinum(II) Complex Bridged with Pyridine-2-Thiolate Ions (C) 3183
  - What Is a Discovery? Carbon Skeletal Rearrangements as Counter-Examples to the Rule of Minimal Structural Change (E) 4655
  - X-Ray Structural Characterization of a Monoorganotin Acid (C) 1365
- Structure prediction
- A Concept for Synthesis Planning in Solid-State Chemistry (R) 3746
- Styrene
- Gram-Scale Synthesis of Suspension-Polymerized Styrene–Divinylbenzene-Based Resins Using an Oscillatory Baffled Reactor (C) 3656
- Substituent effects
- Directed *ortho*-Metalation, a New Insight into Organosodium Chemistry (C) 340
  - Facile Oxidation of Alcohols to Carbonyl Compounds Using a Tris(2-methylphenyl)bismuth Dichloride–DBU Binary System (C) 3028
  - Kinetically Controlled Protonation of a Cyclic Phosphamethanide Complex to a PH-Phosphonium Ylide (C) 3367
  - Kinetic Studies of Carbocation–Carbanion Combinations: Key to a General Concept of Polar Organic Reactivity (C) 91
  - Polymerase Recognition of Unnatural Base Pairs (C) 3841 Corrigendum: 4612
  - Stable Non-Push–Pull Phosphanylcarbenes: NMR Spectroscopic Characterization of a Methylcarbene (C) 2835
  - Tetra- and Pentacyclopentylcyclopentadiene—Two New Donor-Substituted Ligands for Metal Complexes (C) 786
- Substrate mimetics
- Synthesis of Neo-Peptidoglycans: An Unexpected Activity of Proteases (C) 2735
- Subvalent compounds
- $[\text{Ga}_{22}\{\text{N}(\text{SiMe}_3)_2\}_{10}]^{2-}$ : A Metalloid Cluster Compound with a Variation of the  $\text{Ga}_{22}$  Framework (C) 1882
  - $\text{Sr}_4\text{N}_3$ : A Hitherto Missing Member in the Nitrogen Pressure Reaction Series  $\text{Sr}_2\text{N} \rightarrow \text{Sr}_4\text{N}_3 \rightarrow \text{SrN} \rightarrow \text{SrN}_2$  (C) 2288
  - Synthesis and Characterization of  $\text{Ag}_2\text{-NiO}_2$  Showing an Uncommon Charge Distribution (C) 643
- Sugar amino acids
- Glycosamino Acids: Building Blocks for Combinatorial Synthesis—Implications for Drug Discovery (R) 230
- Sulfamides
- A Novel Regio- and Stereoselective Synthesis of Sulfamides from 1,2-Diols Using Burgess and Related Reagents: A Facile Entry into  $\beta$ -Amino Alcohols (C) 834
  - Highly Diastereo- and Enantioselective Intramolecular Amidation of Saturated C–H Bonds Catalyzed by Ruthenium Porphyrins (C) 3465

## Sulfamides

- A New Method for the Synthesis of Nonsymmetrical Sulfamides Using Burgess-Type Reagents (C) 3866

## Sulfanyl groups

- Mechanisms of Sulfanyl (RS) Migrations: Synthesis of Heterocycles (R) 2462

## Sulfatase

- Enantioselective Stereoinversion in the Kinetic Resolution of *rac-sec*-Alkyl Sulfate Esters by Hydrolysis with an Alkyl-sulfatase from *Rhodococcus ruber* DSM 44541 Furnishes Homochiral Products (C) 4052

## Sulfate esters

- Enantioselective Stereoinversion in the Kinetic Resolution of *rac-sec*-Alkyl Sulfate Esters by Hydrolysis with an Alkyl-sulfatase from *Rhodococcus ruber* DSM 44541 Furnishes Homochiral Products (C) 4052

## Sulfite ligand

- Polyoxomolybdenum(v) Sulfite Complexes: Synthesis, Structural, and Physical Studies (C) 2801

## Sulfonates

- The First Highly Efficient Asymmetric Synthesis of  $\alpha$ -Substituted Methyl Sulfonates (C) 109

## Sulfonation

- A Strategy for the Synthesis of Sulfated Peptides (C) 3449

## Sulfones

- Tin-Free Radical-Mediated C–C-Bond Formations with Alkyl Alkyl Sulfones as Radical Precursors (C) 3265

## Sulfoxides

- Allyl Sulfoxides as Precursors for Radical Two-Carbon Ring Expansion of Cyclobutanones (C) 4323
- Enantioselective Total Synthesis of Angucyclinone-Type Antibiotics Rubiginones A<sub>2</sub> and C<sub>2</sub> (C) 2755
- Sulfur-Functionalized Olefins for Titanacycle Formation: Tandem Asymmetric Cyclization and the Pummerer Reaction Based on Sulfoxides Promoted by Titanium(II)-to-Titanium(IV) Relay (C) 3671
- Titanium-Promoted Stereoselective Synthesis of Hydroindolones from *p*-Quinamines by Domino Conjugate Additions (C) 2753

## Sulfur

- Charge-Density Study of Methane Di-(triimido)sulfonic Acid H<sub>2</sub>C[S(NtBu)<sub>2</sub>(NHtBu)]<sub>2</sub>—the NR Analogue of H<sub>2</sub>C[S(O)<sub>2</sub>(OH)]<sub>2</sub> (C) 2079
- Creation of a Unique Self-Supported Pattern of Radially Aligned Semiconductor Ag<sub>2</sub>S Nanorods (C) 1932
- Formation of High-Quality CdS and Other II–VI Semiconductor Nanocrystals in Noncoordinating Solvents: Tunable Reactivity of Monomers (C) 2368
- From Vinyl Sulfides, Sulfoxides, and Sulfones to Vinyl Transition Metal Complexes (C) 1410
- Kinetics of a Reversible Covalent-Bond-Forming Reaction Observed at the Single-Molecule Level (C) 3707
- Molecular Composition of Liquid Sulfur (C) 3199
- Syntheses and Crystal Structures of the New Ag–S Clusters [Ag<sub>70</sub>S<sub>16</sub>(SPh)<sub>34</sub>(PhCO<sub>2</sub>)<sub>4</sub>(triphos)<sub>4</sub>] and [Ag<sub>188</sub>S<sub>94</sub>(PR<sub>3</sub>)<sub>30</sub>] (C) 3818
- Synthesis and Structure of (MeN)Ph<sub>2</sub>S=C=SPh<sub>2</sub>(NMe) (C) 2576
- The First Disulfur and Diselenium Complexes of Platinum: Syntheses and Crystal Structures (C) 136

## Sulfur heterocycles

- Synthesis, Structure, and Redox Properties of Diphosphathienquinones (C) 2574
- Synthetic Studies on the Sulfur-Cross-Linked Core of Antitumor Marine Alkaloid, Discorhabdins: Total Synthesis of Discorhabdin A (C) 348

## Sulfuric acid

- Protonated Sulfuric Acid: Preparation of Trihydroxyoxosulfonium Hexafluoroantimonate H<sub>3</sub>SO<sub>4</sub><sup>+</sup>SbF<sub>6</sub><sup>−</sup> (C) 111

## Superacids

- Protonated Sulfuric Acid: Preparation of Trihydroxyoxosulfonium Hexafluoroantimonate H<sub>3</sub>SO<sub>4</sub><sup>+</sup>SbF<sub>6</sub><sup>−</sup> (C) 111

## Supercritical fluids

- Enhanced Product Selectivity in Continuous N-Methylation of Amino Alcohols over Solid Acid–Base Catalysts with Supercritical Methanol (C) 3476
- Evidence for a Hydroxide Ion Catalyzed Pathway in Ester Hydrolysis in Supercritical Water (C) 623
- The Supercritical Fluid Antisolvent Synthesis of C<sub>60</sub>(C<sub>2</sub>H<sub>4</sub>)<sub>x</sub> (x = 4 or 6): The Crystal Structures of Two Materials Which Were Thought Unlikely to Exist (C) 3796

## Superhelices

- Supramolecular Organization of Oligopeptides, through Complexation with Surfactants (C) 2957

## Supported catalysts

- A Novel Polymer-Supported Arene–Ruthenium Complex for Ring-Closing Olefin Metathesis (C) 2602
- Catalytic Activity and Poisoning of Specific Sites on Supported Metal Nanoparticles (C) 2532
- Fluorous Biphasic Catalysis without Perfluorinated Solvents: Application to Pd-Mediated Suzuki and Sonogashira Couplings (C) 4500
- Supported Ruthenium Catalyst for the Heterogeneous Oxidation of Alcohols with Molecular Oxygen (C) 4538

## Supramolecular chemistry

- A Cluster Rearrangement of an Open Cubane (Cu<sub>4</sub>Br<sub>4</sub>) to a Prismane (Cu<sub>6</sub>Br<sub>6</sub>) in a Copper(I)–Olefin Network (C) 2944
- A Cucurbituril-Based Gyroscane: A New Supramolecular Form (C) 275
- Additivity and Quantification of Dispersive Interactions—from Cyclopropyl to Nitro Groups: Measurements on Porphyrin Derivatives (C) 1368
- An Enantiomerically Pure Propeller-Shaped Supramolecular Capsule Based on the Stereospecific Self-Assembly of Two Chiral Tris(oxazoline) Ligands around Three Ag<sup>I</sup> Ions (C) 3174
- A Remarkable 14-Nuclear Re<sub>8</sub>Ag<sub>6</sub><sup>I</sup> Coordination Oligomer Derived from a 2D (Re<sub>2</sub>Ag<sub>2</sub>)<sub>n</sub> Coordination Polymer with D-Penicillamine (C) 4711
- Assembly of a Nanoscale Chiral Ball through Supramolecular Aggregation of Bowl-Shaped Triangular Helicates (C) 4244
- Assembly of a Truncated-Tetrahedral Chiral [M<sub>12</sub>(μ-L)<sub>18</sub>]<sub>24+</sub> Cage (C) 2515
- A Supramolecular Array of Fullerenes by Quadruple Hydrogen Bonding (C) 838
- Cation-Promoted Hierarchical Formation of Supramolecular Assemblies of Self-Organized Helical Molecular Components (C) 1195
- Characterization of a Planar Cyclic Form of Water Hexamer in an Organic Supra-

molecular Complex: An Unusual Self-Assembly of Bimesityl-3,3'-Dicarboxylic Acid (C) 3417

- Chiral Transmission between Amino Acids: Chirally Selective Amino Acid Substitution in the Serine Octamer as a Possible Step in Homochirogenesis (C) 1721
- Controlled Release of a Dendritically Encapsulated Template Molecule (C) 3254
- 4,4-Diphenyl-2,5-cyclohexadienone: Four Polymorphs and Nineteen Crystallographically Independent Molecular Conformations (C) 3848 Corrigendum: 4370
- DNA-Templated Synthesis: More Versatile than Expected (H) 89
- Dynamic Covalent Chemistry (R) 898 Corrigendum: 1460
- Guest Preorganization: An Alternative “Bioinspired” Paradigm in Host–Guest Chemistry (C) 3259
- Highly Selective Disaccharide Recognition by a Tricyclic Octaamide Cage (C) 4093
- Ligand Design and Bioconjugation of Colloidal Gold Nanoparticles (C) 3218
- Ligand-Templated Four-Metal Chains Dimerize into a Unique [Cu<sup>II</sup>]<sub>8</sub> Cluster (C) 1168
- Mechanistic Features, Cooperativity, and Robustness in the Self-Assembly of Multicomponent Silver(I) Grid-Type Metalloarchitectures (C) 2760 Corrigendum: 3738
- Microporous Supramolecular Coordination Compounds as Chemosensory Photonic Lattices (C) 154
- Modular, Well-Behaved Reversible Polymers from DNA-Based Monomers (C) 4026
- Nanomechanical Devices Based on DNA (H) 3779
- Novel Glycodendrimers Self-Assemble to Nanoparticles which Function as Polyvalent Ligands In Vitro and In Vivo (C) 3195
- Octahedral Arrangement of Porphyrin Moieties around Hexarhenium(III) Cluster Cores: Structure of (μ<sub>3</sub>-Selenido)-hexa(5-(4-pyridyl)-10,15,20-tritolylporphyrin)hexarhenium(III) (2+) (C) 463
- Of Molecular Gyroscopes, Matroska Dolls, and Other “Nano”-Toys (H) 1513
- Paramagnetic Keplerate “Necklaces” Synthesized by a Novel Room-Temperature Solid-State Reaction: Controlled Linking of Metal-Oxide-Based Nanoparticles (C) 579
- Perfectly Straight Nanostructures of Metallosupramolecular Coordination-Polyelectrolyte Amphiphile Complexes on Graphite (C) 3681
- Phase-Sensitive Supramolecular Chirogenesis in Bisporphyrin Systems (C) 1378
- pH-Responsive Molecular Nanocarriers Based on Dendritic Core-Shell Architectures (C) 4252
- Preparation of Resolved Fourfold Symmetric Amphiphilic Helices Using Chiral Metallacrown Building Blocks (C) 4667
- QMOF-1 and QMOF-2: Three-Dimensional Metal–Organic Open Frameworks with a Quartzlike Topology (C) 4471
- Rational Design of Homochiral Solids Based on Two-Dimensional Metal Carboxylates (C) 1159

- Reaction Principles and Crystal Structure Design for the Topochemical Polymerization of 1,3-Dienes (C) 2502
- Selective Measurements of a Nitroxide – Nitroxide Separation of 5 nm and a Nitroxide – Copper Separation of 2.5 nm in a Terpyridine-Based Copper(II) Complex by Pulse EPR Spectroscopy (C) 3907
- Selective Recognition of Fluoride Anion Using a Li<sup>+</sup> – Metallacrown Complex (C) 1419
- Self-Assembled Receptors for Enantioselective Recognition of Chiral Carboxylic Acids in a Highly Cooperative Manner (C) 1924
- Self-Assembly Using Organometallics as Spacers in the Controlled Formation of Isomeric 1D and 2D Supramolecular Quinonoid Networks (C) 3650
- Solid-State and Solution Studies of a Tetrameric Capsule and Its Guests (C) 3793
- Supramolecular Amphiphiles: Spontaneous Formation of Vesicles Triggered by Formation of a Charge-Transfer Complex in a Host (C) 4474 Corrigendum: 4612
- Supramolecular Cluster Catalysis: Benzene Hydrogenation Catalyzed by a Cationic Triruthenium Cluster under Biphasic Conditions (C) 99
- Supramolecular Engineering with Macromolecules: An Alternative Concept for Block Copolymers (C) 3825
- Synthesis and Stereoselective Self-Assembly of Double- and Triple-Stranded Helicates (C) 2086
- Three-Dimensional Electronic Delocalization in Chiral Conjugated Polymers (C) 4225
- Transfer of Chiral Information through Achiral Ion Recognition by a Novel Pseudocrown Ether with a Binaphthyl Moiety (C) 481
- Transmembrane Signalling (C) 3878
- Trapping Energy from and Injecting Energy into Dye – Zeolite Nanoantennae (C) 2284
- Supramolecular modes
  - Macromolecules Containing Bipyridine and Terpyridine Metal Complexes: Towards Metallosupramolecular Polymers (R) 2892
- Surface analysis
  - Characterization of C<sub>2</sub> (C<sub>x</sub>H<sub>y</sub>) Intermediates from Adsorption and Decomposition of Methane on Supported Metal Catalysts by in situ INS Vibrational Spectroscopy (C) 144
  - How to Make a DNA Chip (R) 1276
  - Real-time Observation of the H/D Exchange Reaction between Ethylene and Hydrogen on Pt(111) (C) 146
- Surface chemistry
  - Arrays of Chemomechanically Patterned Patches of Homogeneous and Mixed Monolayers of 1-Alkenes and Alcohols on Single Silicon Surfaces (C) 2353
  - Catalytic Activity and Poisoning of Specific Sites on Supported Metal Nanoparticles (C) 2532
  - Direct Observation of Radicals in the Activation of Ziegler–Natta Catalysts (C) 1517
  - Discriminating Chiral Molecules of (R)-PPA and (S)-PPA in Aqueous Solution by ECSTM (C) 3408
  - Electrochemical Modification of Single Carbon Nanotubes (C) 1353
- Nano- and Micropatterning by Organic–Inorganic Templating of Hierarchical Self-Assembled Structures (H) 3359
- Patterning of a Colloidal Crystal Film on a Modified Hydrophilic and Hydrophobic Surface (C) 2067
- Real-Time Single-Molecule Imaging of the Formation and Dynamics of Coordination Compounds (C) 4779
- Reversible Photoinsertion of Ferrocene into a Hydrophobic Semiconductor Surface: A Chemionic Switch (C) 3653
- Super-Hydrophobic Surface of Aligned Polyacrylonitrile Nanofibers (C) 1221
- Surface Structure and Crystal Growth of Zeolite Beta C (C) 1235
- The Adsorption of Cyclopropane and Cyclohexane on Cu(111): An Experimental and Theoretical Investigation on the Nature of the CH–Metal Interaction (C) 1735
- The Catalytic Use of Onion-Like Carbon Materials for Styrene Synthesis by Oxidative Dehydrogenation of Ethylbenzene (C) 1885
- Surface plasmon resonance
  - A Model System Mimicking Glycosphingolipid Clusters to Quantify Carbohydrate Self-Interactions by Surface Plasmon Resonance (C) 1554
  - Attachment of Molecules at a Molecular Printboard by Multiple Host–Guest Interactions (C) 4467
- Surfactants
  - Chiral Templating of Silica–Lipid Lamellar Mesophase with Helical Tubular Architecture (C) 2988
  - From Surfactant–Inorganic Mesoporous Structures to Tungsten Nanowires (C) 333
  - Hierarchically Ordered Silica Mesophases Using Mixed Surfactant Systems as Templates (C) 3844
  - Hydrothermal Synthesis of Molecular Sieve Fibers: Using Microemulsions To Control Crystal Morphology (C) 476
  - Nucleation of MCM-41 Nanoparticles by Internal Reorganization of Disordered and Nematic-Like Silica–Surfactant Clusters (C) 2151
  - Polymeric Surfactants for the New Millennium: A pH-Responsive, Zwitterionic, Schizophrenic Diblock Copolymer (C) 1413
  - Supramolecular Organization of Oligopeptides, through Complexation with Surfactants (C) 2957
- Sustainable development
  - 10 Years after Rio—Concepts on the Contribution of Chemistry to a Sustainable Development (R) 414
- Suzuki reaction
  - Simple Mixed Tricyclohexylphosphane–Triarylphosphite Complexes as Extremely High-Activity Catalysts for the Suzuki Coupling of Aryl Chlorides (C) 4120
  - Suzuki Cross-Couplings of Alkyl Tosylates that Possess β Hydrogen Atoms: Synthetic and Mechanistic Studies (C) 3910
- Symmetries
  - How Important is Parity Violation for Molecular and Biomolecular Chirality? (R) 4618
- Symmetry breaking
  - Inorganic Chemistry Goes Protein Size: A Mo<sub>368</sub> Nano-Hedgehog Initiating Nanochemistry by Symmetry Breaking (C) 1162
  - “Molecular Symmetry Breakers” Generating Metal-Oxide-Based Nanoobject Fragments as Synthons for Complex Structures:
    - [[Mo<sub>128</sub>Eu<sub>4</sub>O<sub>388</sub>H<sub>10</sub>(H<sub>2</sub>O)<sub>81</sub>]<sub>2</sub>]<sup>20–</sup>, a Giant-Cluster Dimer (C) 2805
- Synkinesis
  - Rigid Lipid Membranes and Nanometer Clefts: Motifs for the Creation of Molecular Landscapes (R) 1828
- Synthesis
  - A Concept for Synthesis Planning in Solid-State Chemistry (R) 3746
- Synthesis design
  - Towards Stepwise Cluster Assembly: A Decacopper(II) Complex Obtained by Controlled Expansion of a Metallasiloxane Cage (C) 4517
- Synthetic methods
  - A Click Chemistry Approach to Tetrazoles by Huisgen 1,3-Dipolar Cycloaddition: Synthesis of 5-Acyltetrazoles from Azides and Acyl Cyanides (C) 2113
  - A Click Chemistry Approach to Tetrazoles by Huisgen 1,3-Dipolar Cycloaddition: Synthesis of 5-Sulfonyl Tetrazoles from Azides and Sulfonyl Cyanides (C) 2110
  - A Five-Component Synthesis of Hexa-substituted Benzene (C) 4291
  - A Highly Regioselective Synthesis of Polysubstituted Naphthalene Derivatives through Gallium Trichloride Catalyzed Alkyne–Aldehyde Coupling (C) 2138
  - Aldolase-Catalyzed Asymmetric Synthesis of Novel Pyranose Synthons as a New Entry to Heterocycles and Epothilones (C) 1404
  - An Alkynylboronic Ester Annulation: Development of Synthetic Methods for Application to Diversity-Oriented Organic Synthesis (C) 3272
  - A New Method for the Synthesis of Nonsymmetrical Sulfamides Using Burgess-Type Reagents (C) 3866
  - A Novel Regio- and Stereoselective Synthesis of Sulfamides from 1,2-Diols Using Burgess and Related Reagents: A Facile Entry into β-Amino Alcohols (C) 834
  - A One-Pot Synthesis of Chromophoric Silicate-Based Xerogels (C) 1729 Corrigendum: 3085
  - Asymmetric Epoxidation of Allyl Alcohol on Organic–Inorganic Hybrid Chiral Catalysts Grafted onto the Surface of Silica and in the Mesopores of MCM-41 (C) 821
  - A Synthetic Approach towards the C1–C9 Subunit of Zincophorin (C) 2144
  - Atom-Transfer Tandem Radical Cyclization Reactions Promoted by Lewis Acids (C) 3014
  - Convergent Synthesis of Silylated Allylic Alcohols by a Stereoselective Domino, Sequential Radical-Coupling Reaction (C) 1407
  - C<sub>2</sub>-Symmetric Chiral Pentacyclic Guanidine: A Phase-Transfer Catalyst for the Asymmetric Alkylation of *tert*-Butyl Glycinate Schiff Base (C) 2832
  - Diastereoselective Asymmetric Nitro-Aldol Reaction of α-Amino Aldehydes under High Pressure without Catalyst (C) 1031
  - Directed *ortho*-Metalation, a New Insight into Organosodium Chemistry (C) 340
  - Directing Otherwise Incompatible Reactions in a Single Solution by Using DNA-Templated Organic Synthesis (C) 4104
  - Dynamic Kinetic Resolution and Desymmetrization of Enantiotopic Groups

- by Cyclodehydration of Racemic or Prochiral  $\delta$ -Oxoesters with (*R*)-Phenylglycinol: Enantioselective Synthesis of Piperidines (C) 335
- Efficient and General Synthetic Approach to Pentasubstituted Conjugated Dienes Using Site-Selective Coupling of Cuprates with 1,4-Diiodo-1,3-alkadienes as the Key Reaction (C) 3023
- Efficient Intramolecular Oxidative Amination of Olefins through Direct Dioxxygen-Coupled Palladium Catalysis (C) 164
- Efficient Synthesis of a Tricyclic BCD Analogue of Ouabain: Lewis Acid Catalyzed Diels–Alder Reactions of Sterically Hindered Systems (C) 4125
- Enantiospecific Synthesis of the Bridged Pyrrolizidine Core of Asparagine A: Dipolar Cycloadditions of Azomethine Ylides Derived from the Sulfonylation of Vinylogous Amides. (C) 1778
- Expanding the Reaction Scope of DNA-Templated Synthesis (C) 1796
- Generation of Organotantalum Reagents and Conjugate Addition to Enones (C) 1389
- Gram-Scale Synthesis of Suspension-Polymerized Styrene–Divinylbenzene-Based Resins Using an Oscillatory Baffled Reactor (C) 3656
- Highly Efficient Stereoccontrolled Total Synthesis of the Polyfunctional Carotenoid Peridinin (C) 1023
- Highly Enantioselective and Practical Cinchona-Derived Phase-Transfer Catalysts for the Synthesis of  $\alpha$ -Amino Acids (C) 3036
- Highly Enantioselective Cycloisomerization of Enynes Catalyzed by Rhodium for the Preparation of Functionalized Lactams (C) 4526
- Highly Enantioselective Rh-Catalyzed Intramolecular Alder–Ene Reactions for the Syntheses of Chiral Tetrahydrofurans (C) 3457
- HIO<sub>3</sub> and I<sub>2</sub>O<sub>5</sub>: Mild and Selective Alternative Reagents to IBX for the Dehydrogenation of Aldehydes and Ketones (C) 1386
- Indenol Ether Formation from Aryl Alkynes Bearing *ortho*-Acetals: An Unprecedented Rearrangement in Palladium-Catalyzed Carboalkoxylation (C) 4328
- Lewis Acid Promoted, O-Selective, Nucleophilic Addition of Silyl Enol Ethers to N=O bonds (C) 2986 Corrigendum: 3313
- Microwave-Assisted Reactions in Organic Synthesis—Are There Any Non-thermal Microwave Effects? Response to the Highlight by N. Kuhnert (L) 3589
- Microwave-Assisted Reactions in Organic Synthesis—Are There Any Non-thermal Microwave Effects? (H) 1863
- Modulation of the Reactivity Profile of IBX by Ligand Complexation: Ambient Temperature Dehydrogenation of Aldehydes and Ketones to  $\alpha,\beta$ -Unsaturated Carbonyl Compounds (C) 993
- N,N*-Dialkylhydrazones as the Imine Component in the Staudinger-Like [2 + 2] Cycloaddition to Benzyloxyketene (C) 831
- Novel Ene-Like Cycloisomerization Reaction of Nitrile Oxides with a Tethered Allyltrimethylsilyl Group (C) 1586
- Ones, Thiones, and *N*-Oxides: An Exercise in Imidazole Chemistry (C) 2290

- Oxidation of Silyl Enol Ethers by Using IBX and IBX·*N*-Oxide Complexes: A Mild and Selective Reaction for the Synthesis of Enones (C) 996
- Palladium-Catalyzed  $\alpha$ -Arylation of Esters: Ideal New Methodology for Discovery Chemistry (H) 953
- Palladium-Catalyzed Coupling Reactions of Aryl Chlorides (R) 4176
- Peptide-Templated Saccharide Synthesis on a Solid Support (C) 1215
- Regiospecific Inverse-Electron-Demand Diels–Alder Reaction of Simultaneously Electrogenated Diene and Dienophile: An Expeditious Route to Polyfunctionalized 1,4-Benzoxazine Derivatives (C) 824
- Ruthenium-Catalyzed Oxidative Heck Reactions (C) 169
- Stereospecific Interconversion between *cis* and *trans* 2,3-Epoxy sulfides (C) 819
- Sulfur-Functionalized Olefins for Titanacycle Formation: Tandem Asymmetric Cyclization and the Pummerer Reaction Based on Sulfoxides Promoted by Titanium(II)-to-Titanium(IV) Relay (C) 3671
- Synthesis of Furoquinolines by a Multicomponent Domino Process (C) 3633
- The CP Molecule Labyrinth: A Paradigm of How Endeavors in Total Synthesis Lead to Discoveries and Inventions in Organic Synthesis (R) 2678
- Total Synthesis of the Amaryllidaceae Alkaloid (+)-Plicamine and Its Unnatural Enantiomer by Using Solid-Supported Reagents and Scavengers in a Multi-step Sequence of Reactions (C) 2194
- Transannular Radical Cascade as an Approach to the Diastereoselective Synthesis of Linear Triquinane (C) 3284
- ULTRA Loaded Resins Based on the Cross-Linking of Linear Poly(ethylene imine). Improving the Atom Economy of Polymer-Supported Chemistry (C) 2975 Corrigendum: 3313



#### TADDOLs

- The Mechanism of Catalytic Enantioselective Fluorination: Computational and Experimental Studies (C) 979

#### Tantalum

- Generation of Organotantalum Reagents and Conjugate Addition to Enones (C) 1389
- Hydroboration of Coordinated Dinitrogen: A New Reaction for the N<sub>2</sub> Ligand that Results in Its Functionalization and Cleavage (C) 3709

#### Tautomerism

- Barrier Height Titration by Tunable Photoionization Combined with Chemical Monitoring: Unimolecular Keto/Enol Tautomerization of the Acetamide Cation Radical (C) 2748
- Kinetically Controlled Protonation of a Cyclic Phosphamethanide Complex to a PH-Phosphonium Ylide (C) 3367

#### Tellurium

- A New Approach to Metalated Imido and Amido Tellurophosphoranes (C) 3468
- Are Ate Complexes True Intermediates in Lithium–Metalloid Exchange? Sub-

tle Effects of Ion-Pair Structure in Lithium–Tellurium and Lithium–Selenium Exchange Reactions (C) 3436

- Polymorphic Forms of Rubidium Telluride Rb<sub>2</sub>Te (C) 2725
- Unusual Uranyl Tellurites Containing [Te<sub>2</sub>O<sub>6</sub>]<sup>4-</sup> Ions and Three-Dimensional Networks (C) 3426

#### Telomerization

- A Highly Efficient Catalyst for the Telomerization of 1,3-Dienes with Alcohols: First Synthesis of a Monocarbene-palladium(0)–Olefin Complex (C) 986

#### Template effect

- Ligand-Templated Four-Metal Chains Dimerize into a Unique [Cu<sup>II</sup>]<sub>8</sub> Cluster (C) 1168

#### Template synthesis

- Chiral Templating of Silica–Lipid Lamellar Mesophase with Helical Tubular Architecture (C) 2988
- (C<sub>2</sub>H<sub>10</sub>N<sub>2</sub>)[Cr(HPO<sub>3</sub>)F<sub>3</sub>]: The First Organically Templated Fluorochromium(III) Phosphite (C) 3683
- Directing Otherwise Incompatible Reactions in a Single Solution by Using DNA-Templated Organic Synthesis (C) 4104
- DNA-Templated Synthesis: More Versatile than Expected (H) 89
- Expanding the Reaction Scope of DNA-Templated Synthesis (C) 1796
- Peptide-Templated Saccharide Synthesis on a Solid Support (C) 1215
- Polymerization on Solid Supports (C) 4567
- Recent Advances in Synthesis and Applications of Transition Metal Containing Mesoporous Molecular Sieves (R) 214
- Room-Temperature Synthesis in Acidic Media of Large-Pore Three-Dimensional Bicontinuous Mesoporous Silica with *1a3d* Symmetry (C) 3876
- Semiconductor Nanohelices Templated by Supramolecular Ribbons (C) 1705
- Template-Directed Synthesis of Helical Phenanthroline Cyclophanes (C) 4520

#### Terpenoids

- (*E*)-4-Hydroxy-3-methylbut-2-enyl Diphosphate: An Intermediate in the Formation of Terpenoids in Plant Chromoplasts (C) 2604
- Stereoselective Prins Cyclizations of  $\delta,\epsilon$ -Unsaturated Ketones to *cis*-3-Chlorocyclohexanols with TiCl<sub>4</sub> (C) 491

#### Terpyridine ligands

- Macromolecules Containing Bipyridine and Terpyridine Metal Complexes: Towards Metallosupramolecular Polymers (R) 2892
- Supramolecular Engineering with Macromolecules: An Alternative Concept for Block Copolymers (C) 3825

#### Tertiary alcohols

- Activity of Lipases and Esterases towards Tertiary Alcohols: Insights into Structure–Function Relationships (C) 3211

#### Theoretical chemistry

- Ligand Rotation Distinguishes First- and Second-Generation Ruthenium Metathesis Catalysts (C) 4484

#### Thiiranium ions

- Mechanisms of Sulfanyl (RS) Migrations: Synthesis of Heterocycles (R) 2462

#### Thin films

- A Patterned TiO<sub>2</sub>(Anatase)/TiO<sub>2</sub>(Rutile) Bilayer-Type Photocatalyst: Effect of the Anatase/Rutile Junction on the Photocatalytic Activity (C) 2811

- Color-Tunable Transparent Mesoporous Silica Films: Immobilization of One-Dimensional Columnar Charge-Transfer Assemblies in Aligned Silicate Nanochannels (C) 3414
- Comment on the Communication “Highly Efficient White Organic Electroluminescence from a Double-Layer Device Based on a Boron Hydroxyphenylpyridine Complex” by Wang et al. (L) 2273
- Highly Efficient White Organic Electroluminescence from a Double-Layer Device Based on a Boron Hydroxyphenylpyridine Complex (C) 182
- Layer-By-Layer Deposition and Ordering of Low-Molecular-Weight Dye Molecules for Second-Order Nonlinear Optics (C) 3236
- Microporous Supramolecular Coordination Compounds as Chemosensory Photonic Lattices (C) 154
- Nanostructured Molecular Materials for Device-Quality, Highly Efficient Electrooptic Poled Polymers (H) 3363
- Ordered Langmuir–Blodgett Films of Amphiphilic  $\beta$ -Hairpin Peptides Imaged by Atomic Force Microscopy (C) 127
- Patterning of a Colloidal Crystal Film on a Modified Hydrophilic and Hydrophobic Surface (C) 2067
- Reply (L) 2274
- Synthesis of Amphiphilic Conjugated Diblock Oligomers as Molecular Diodes (C) 3598 Corrigendum: 4612
- Thiols**
  - A Highly Enantioselective and General Conjugate Addition of Thiols to Cyclic Enones with an Organic Catalyst (C) 338
- Thiophene**
  - Tuning the Electrical Conductivity and Self-Assembly of Regioregular Polythiophene by Block Copolymerization: Nanowire Morphologies in New Di- and Triblock Copolymers (C) 329
- Thulium**
  - A New Era in Divalent Organolanthanide Chemistry? (H) 743
  - Expanding Divalent Organolanthanide Chemistry: The First Organothulium(II) Complex and the In Situ Organodysprosium(II) Reduction of Dinitrogen (C) 359
- Time-resolved spectroscopy**
  - DNA-Mediated Electron Transfer across Synthetic T:A·T Triplex Structures (C) 3485
- Tin**
  - Fluorous Biphasic Esterification Directed towards Ultimate Atom Efficiency (C) 4117
  - Generation of Organotantalum Reagents and Conjugate Addition to Enones (C) 1389
  - Hexagonal and Cubic Thermally Stable Mesoporous Tin(IV) Phosphates with Acidic and Catalytic Properties (C) 1594
  - *Ortho* Substituents Direct Regioselective Addition of Tributyltin Hydride to Unsymmetrical Diaryl (or Heteroaryl) Alkynes: An Efficient Route to Stannylated Stilbene Derivatives (C) 1578
  - Tin Analogues of “Arduengo Carbenes”: Synthesis of 1,3,2 $\lambda^2$ -Diazastannoles and Transfer of Sn Atoms between a 1,3,2 $\lambda^2$ -Diazastannole and a Diazadiene (C) 1888
  - X-Ray Structural Characterization of a Monoorganotin Acid (C) 1365
- Titanium**
  - Anti-Markovnikov Hydroamination of Terminal Alkynes (C) 2541
  - A Simple, Reliable, Catalytic Asymmetric Allylation of Ketones (C) 3697
  - Diastereoselective Synthesis of *trans*-1,2-Dialkylcyclopropanols by the Kulinkovich Hydroxycyclopropanation of Homoallylic Alcohols (C) 2160
  - Enantioselective C–C Bond Formation with Titanium(IV) Alkoxides—an Unusual Alkylation (C) 1361
  - Sensitized Luminescence of Trivalent Europium by Three-Dimensionally Arranged Anatase Nanocrystals in Mesoporous Structured Titania Thin Films (C) 959
  - Sequential Catalytic Asymmetric Allylic Transfer Reaction: Enantioselective and Diastereoselective Construction of Tetrahydropyran Units (C) 161
  - Stereoselective Synthesis of Tri- and Tetrasubstituted Olefins by Tandem Cyclization Addition Reactions Featuring Vinyl Radicals (C) 3206
  - Sulfur-Functionalized Olefins for Titanacycle Formation: Tandem Asymmetric Cyclization and the Pummerer Reaction Based on Sulfoxides Promoted by Titanium(II)-to-Titanium(IV) Relay (C) 3671
  - The Decaphosphatitanocene Dianion—A New Chapter in the Chemistry of Naked Polyphosphorus Ligands (H) 2723
  - The Mechanism of Catalytic Enantioselective Fluorination: Computational and Experimental Studies (C) 979
  - The Structure of the Peroxo Species in the TS-1 Catalyst as Investigated by Resonant Raman Spectroscopy (C) 4734
  - Titanium-Promoted Stereoselective Synthesis of Hydroindolones from *p*-Quinamines by Domino Conjugate Additions (C) 2753
  - Titanium Silsesquioxanes Grafted on Three-Dimensionally Netted Polysiloxanes: Catalytic Ensembles for Epoxidation of Alkenes with Aqueous Hydrogen Peroxide (C) 637
- Titanium dioxide**
  - Patterning of a Colloidal Crystal Film on a Modified Hydrophilic and Hydrophobic Surface (C) 2067
- Topochemistry**
  - Reaction Principles and Crystal Structure Design for the Topochemical Polymerization of 1,3-Dienes (C) 2502
  - Topochemical Polymerization of 7,7,8,8-Tetrakis(methoxycarbonyl)quinodimethane (C) 4306
- Topology**
  - Changeable Pore Sizes Allowing Effective and Specific Recognition by a Molybdenum-Oxide Based “Nanosponge”: En Route to Sphere-Surface and Nanoporous-Cluster Chemistry (C) 3604
  - Inorganic Chemistry Goes Protein Size: A  $\text{Mo}_{368}$  Nano-Hedgehog Initiating Nanochemistry by Symmetry Breaking (C) 1162
- Total synthesis**
  - A Biomimetically Inspired Synthesis of the Dehydropiperidine Domain of Thiostrepton (C) 1941
  - Actin-Binding Marine Macrolides: Total Synthesis and Biological Importance (R) 4632
  - Aldolase-Catalyzed Asymmetric Synthesis of Novel Pyranose Synthons as a New Entry to Heterocycles and Epithilones (C) 1404
  - An Efficient Stereoselective Total Synthesis of DL-Sesquicillin, a Glucocorticoid Antagonist (C) 1434
  - A Short Synthesis of ( $\pm$ )-13-Deoxyseratine (C) 1783
  - A Stereoselective Route to Guanacastepene A through a Surprising Epoxidation (C) 2188
  - Asymmetric Syntheses of Pectenotoxins-4 and -8, Part II: Synthesis of the C20–C30 and C31–C40 Subunits and Fragment Assembly (C) 4573
  - Asymmetric Syntheses of Pectenotoxins-4 and -8, Part I: Synthesis of the C1–C19 Subunit (C) 4569
  - Callipeltoside A: Assignment of Absolute and Relative Configuration by Total Synthesis (C) 841
  - Concise and Efficient Total Synthesis of *Lycopodium* Alkaloid Magellanine (C) 4090
  - Concise Enantioselective Synthesis of (+)-FR66979 and (+)-FR900482: Dimethylidioxirane-Mediated Construction of the Hydroxylamine Hemiketal (C) 4683
  - Concise Total Synthesis of (–)-Fronodosin B Using a Novel Palladium-Catalyzed Cyclization (C) 1569
  - Efficient, Racemization-Free Peptide Coupling of *N*-Alkyl Amino Acids by Using Amino Acid Chlorides Generated In Situ—Total Syntheses of the Cyclopeptides Cyclosporin O and Omphalotin A (H) 4661
  - Enzymatic Elongation of the LEC14 Antigen Generates a  $\beta$ -1,2 Arm on *N*-Glycans (C) 4259
  - Facile Construction of *N*-Hydroxybenzazocine: Enantioselective Total Synthesis of (+)-FR900482 (C) 4686
  - First De Novo Synthesis of the Bisindole Alkaloid Vinblastine (H) 4217
  - Highly Efficient Stereocontrolled Total Synthesis of the Polyfunctional Carotenoid Peridinin (C) 1023
  - Natural Products Are Biologically Validated Starting Points in Structural Space for Compound Library Development: Solid-Phase Synthesis of Dysidiolide-Derived Phosphatase Inhibitors (C) 307
  - Stereocontrolled Synthesis of the Quinaldic Acid Macrocyclic System of Thiostrepton (C) 1937
  - Stereocontrolled Total Synthesis of Apicularen A and Its  $\Delta^{17,18}$  Z Isomer (C) 3701
  - Stereoselective Total Synthesis of Epithilones by the Metathesis Approach Involving C9–C10 Bond Formation (C) 1381
  - Stereoselective Total Synthesis of Mucocin, an Antitumor Agent (C) 4751
  - Synthesis of the Functionalized Tricyclic Skeleton of Guanacastepene A: A Tandem Epoxide-Opening  $\beta$ -Elimination/Knoevenagel Cyclization (C) 2185
  - Synthesis of the Protein Phosphatase 2A Inhibitor (4*S*,5*S*,6*S*,10*S*,11*S*,12*S*)-Cytostatin (C) 1748
  - Synthetic Studies on the Sulfur-Cross-Linked Core of Antitumor Marine Alkaloid, Discorhabdins: Total Synthesis of Discorhabdin A (C) 348
  - The Core Structure of TMC-95A Is a Promising Lead for Reversible Proteasome Inhibition (C) 780
  - The CP Molecule Labyrinth: A Paradigm of How Endeavors in Total Synthesis Lead to Discoveries and Inventions in Organic Synthesis (R) 2678
  - The Diazonamides: The Plot Thickens (H) 2489
  - The Diels–Alder Reaction in Total Synthesis (R) 1668

- The First Total Synthesis of Efrapeptin C (C) 4267
- The Total Synthesis of (-)-Amathaspiramide F (C) 4556
- The Total Synthesis of Coleophomones B and C (C) 3276
- The Total Synthesis of Proteasome Inhibitors TMC-95A and TMC-95B: Discovery of a New Method To Generate *cis*-Propenyl Amides (C) 512
- Total Synthesis of Ambruticin (C) 176
- Total Synthesis of Amphidinolide T4 (C) 4763
- Total Synthesis of Diazonamide A (C) 3495
- Total Synthesis of (+)-Epoxyquinols A and B (C) 3192
- Total Synthesis of (±)-FR66979 (C) 4688
- Total Synthesis of Leucascandrolide A (C) 4098
- Total Synthesis of (±)-Otteliones A and B (C) 2396
- Total Synthesis of (+)-Pamamycin-607 (C) 1392
- Total Synthesis of Polycephalin C and Determination of the Absolute Configurations at the 3'',4'' Ring Junction (C) 2786
- Total Synthesis of (-)-Strychnine (C) 1934
- Total Synthesis of the Amaryllidaceae Alkaloid (+)-Plicamine and Its Unnatural Enantiomer by Using Solid-Supported Reagents and Scavengers in a Multistep Sequence of Reactions (C) 2194
- Total Synthesis of the Natural Enantiomer of (-)-Lepadiformine and Determination of Its Absolute Stereochemistry (C) 3017
- Total Synthesis of the Nematicidal Cyclododecapeptide Omphalotin A by Using Racemization-Free Triphosgene-Mediated Couplings in the Solid Phase (C) 2307
- Total Synthesis of the Presumed Amphidinolide A (C) 508
- Total Synthesis of (±)-Wortmannin (C) 4680
- Transfer hydrogenation
  - Catalytic Electronic Activation: Indirect "Wittig" Reaction of Alcohols (C) 4740
- Transglycosylase
  - Tetrafunctional Photoaffinity Labels Based on Nakanishi's *m*-Nitroalkoxy-Substituted Phenyltrifluoromethyldiazirine (C) 2293
- Transition metal oxides
  - Synthesis and Characterization of Ag<sub>2</sub>NiO<sub>2</sub> Showing an Uncommon Charge Distribution (C) 643
- Transition metals
  - An Iridaborane Reaction Cycle Driven by PMe<sub>3</sub> and BH<sub>3</sub>·THF: Synthesis and Characterization of [Cp\*IrB<sub>3</sub>H<sub>7</sub>(PMe<sub>3</sub>)<sub>3</sub>] and [Cp\*IrB<sub>2</sub>H<sub>6</sub>(PMe<sub>3</sub>)<sub>2</sub>] (C) 3860
  - Chain Compounds Based on Transition Metal Backbones: New Life for an Old Topic (H) 4453
  - Enantioselective Synthesis of and with Allenes (H) 2933
  - Halide Effects in Transition Metal Catalysis (R) 26
  - Heterodinuclear Transition-Metal Complexes with Multiple Metal–Metal Bonds (R) 3948
  - Identification of Jahn–Teller Effects in both Singlet and Triplet Low-Energy States of [(η<sup>6</sup>-benzene)Nb(CO)<sub>3</sub>]<sup>+</sup> (C) 2120
- In Situ Enzymatic Screening (ISES): A Tool for Catalyst Discovery and Reaction Development (C) 1603
- Signal Amplification by a Fluorescent Indicator of a pH-Driven Intramolecular Translocation of a Copper(II) Ion (C) 2553
- Transition states
  - Catalytic Enantioselective Diels–Alder Reactions: Methods, Mechanistic Fundamentals, Pathways, and Applications (R) 1650
  - Electrocyclization of (Z)-1,2,4,6-Heptatetraene and its Heterosubstituted Analogues: Pericyclic or Pseudopericyclic? (L) 1147
  - Rate Acceleration through Dispersion Interactions: Effect of a Hemiacerand on the Transition State of Inner Phase Decompositions of Diazirines (C) 96
  - Reply (L) 1150
  - Sigmatropic Shiftamers: Fluxionality in Broken Ladderane Polymers (C) 1033
  - Synthesis and Evaluation of Transition-State Analogue Inhibitors of α-1,3-Fucosyltransferase (C) 3041
- Translation
  - Chemical Transformations: Translation and the Periodic Table in Japan (E) 739
- Transmetalation
  - Copper-Catalyzed Reductive Alkylations of Enones: A Novel Transmetalation Protocol (C) 4580
  - From Vinyl Sulfides, Sulfoxides, and Sulfones to Vinyl Transition Metal Complexes (C) 1410
  - Generation of Organotantalum Reagents and Conjugate Addition to Enones (C) 1389
  - Novel Synthetic Approach to Trinuclear 3d-4f Complexes: Specific Exchange of the Central Metal of a Trinuclear Zinc(II) Complex of a Tetraoxime Ligand with a Lanthanide(III) Ion (C) 4670
  - Observation of the Direct Products of Migratory Insertion in Aryl Palladium Carbene Complexes and Their Subsequent Hydrolysis (C) 2363
- Transport proteins
  - Chemical Strategies for Iron Acquisition in Plants (M) 2259 Corrigendum: 4610
- Triazoles
  - Synthesis and Evaluation of Transition-State Analogue Inhibitors of α-1,3-Fucosyltransferase (C) 3041
- Triazolium salts
  - An Efficient Nucleophilic Carbene Catalyst for the Asymmetric Benzoin Condensation (C) 1743
- Trifluoromethylation
  - Stereoselective Synthesis of Boc-Protected *cis* and *trans*-4-Trifluoromethylprolines by Asymmetric Hydrogenation Reactions (C) 1600
- Triphosgene
  - Efficient, Racemization-Free Peptide Coupling of *N*-Alkyl Amino Acids by Using Amino Acid Chlorides Generated In Situ—Total Syntheses of the Cyclopeptides Cyclosporin O and Omphalotin A (H) 4661
  - Total Synthesis of the Nematicidal Cyclododecapeptide Omphalotin A by Using Racemization-Free Triphosgene-Mediated Couplings in the Solid Phase (C) 2307
- Triple-decker complexes
  - A Triple-Decker Sandwich Complex of Barium (C) 2315
  - Hypoelectronic Dimetallaboranes (H) 4220
- Tripodal ligands
  - A Modular Approach to C<sub>1</sub> and C<sub>3</sub> Chiral N-Tripodal Ligands for Asymmetric Catalysis (C) 3473
  - A Structurally Characterized Chromium(III) Superoxide Complex Features "Side-on" Bonding (C) 2333
- Tritium
  - The Shortest Route to Chiral Ditosylmethylamine (C) 497
- Tryptophan
  - Global Replacement of Tryptophan with Aminotryptophans Generates Non-Invasive Protein-Based Optical pH Sensors (C) 4066
- Tungsten
  - C–C Coupling between an η<sup>3</sup>-Allyl Ligand and Carbon Nucleophiles in Molybdenum and Tungsten Complexes: Structural Characterization of the Key Intermediate (C) 1427
  - C<sub>3</sub>K-Promoted Self-Condensation and Self-Condensation-Cycloisomerization Reactions of α,β-Unsaturated Fischer Carbene Complexes (C) 3442
  - Experimental Observation and Confirmation of Icosahedral W@Au<sub>12</sub> and Mo@Au<sub>12</sub> Molecules (C) 4786
  - From Surfactant–Inorganic Mesostructures to Tungsten Nanowires (C) 333
  - Icosahedral W@Au<sub>12</sub>: A Predicted Closed-Shell Species, Stabilized by Auophilic Attraction and Relativity and in Accord with the 18-Electron Rule (C) 2174
  - Naphtho[1,8-*b,c*]phosphete and 1,2-Diphosphaacenaphthene from the Reaction of 1,8-Dithionaphthalene with R<sub>2</sub>PCl<sub>2</sub> (C) 3897
  - Synthesis of the Dibismuthene Complex [(μ-η<sup>2</sup>-(*cis*-Me<sub>3</sub>SiCH<sub>2</sub>Bi)<sub>2</sub>][W(CO)<sub>5</sub>]<sub>2</sub>] from a Cyclobismuthane and [W(CO)<sub>5</sub>(thf)] (C) 2309
- Tyrosine kinases
  - Natural Product Derived Receptor Tyrosine Kinase Inhibitors: Identification of IGF1R, Tie-2, and VEGFR-3 Inhibitors (C) 1174



- Ultrasmall-angle X-ray scattering
  - Mesophases of (Bio)Polymer–Silica Particles Inspire a Model for Silica Biomineralization in Diatoms (C) 1543
- Umpolung
  - An Umpolung Approach to *cis*-Hyponitrite Complexes (C) 2371
  - Voltage-Driven Changes in Molecular Dipoles Yield Negative Differential Resistance at Room Temperature (C) 827
- Uranium
  - A Highly Reactive Uranium Complex Supported by the Calix[4]tetrapyrrole Tetraanion Affording Dinitrogen Cleavage, Solvent Deoxygenation, and Polysilanol Depolymerization (C) 3433
- Urea
  - Design of a Bilayer Structure in an Organic Inclusion Compound (C) 2181
- Urea derivatives
  - Addition of Ureas to Arynes: Straightforward Synthesis of Benzodiazepine and Benzodiazocine Derivatives (C) 3247

## Urotensin II

- Structure–Function Analysis of Urotensin II and Its Use in the Construction of a Ligand–Receptor Working Model (C) 2940

## UV/Vis spectroscopy

- $(\text{C}_2\text{H}_{10}\text{N}_2)[\text{Cr}(\text{HPO}_3)_3\text{F}_3]$ : The First Organically Templated Fluorochromium(III) Phosphite (C) 3683
- *cis* and *trans* Forms of a Binuclear Subphthalocyanine (C) 2565
- Fabrication of a Metal-Coated Three-Dimensionally Ordered Macroporous Film and its Application as a Refractive Index Sensor (C) 1153
- Synthesis, Separation, and Characterization of the Topoisomers of Fused Bicyclic Subphthalocyanine Dimers (C) 2561



## Vanadium

- A Breathing Hybrid Organic–Inorganic Solid with Very Large Pores and High Magnetic Characteristics (C) 281
- Bridging the Gap between Polyoxometalates and Classic Coordination Compounds: A Novel Type of Hexavanadate Complex (C) 2523
- Monomeric Compounds Containing the *cis*-[V(=O)(OH)]<sup>+</sup> Core (C) 2797
- Novel Achiral Biphenol-Derived Diastereomeric Oxovanadium(IV) Complexes for Highly Enantioselective Oxidative Coupling of 2-Naphthols (C) 4532

## Vapochromism

- Vapor-Induced Luminescence Switching in Crystals of the *Syn* Isomer of a Dinuclear (Bipyridine)platinum(II) Complex Bridged with Pyridine-2-Thiolate Ions (C) 3183

## Vasoactive peptides

- Structure–Function Analysis of Urotensin II and Its Use in the Construction of a Ligand–Receptor Working Model (C) 2940

## Vesicles

- Adhesive and Anti-Adhesive Agents in Giant Vesicles (C) 1350
- One-Step Preparation of Block Copolymer Vesicles with Preferentially Segregated Acidic and Basic Corona Chains (C) 1001
- Supramolecular Amphiphiles: Spontaneous Formation of Vesicles Triggered by Formation of a Charge-Transfer Complex in a Host (C) 4474 Corrigendum: 4612
- Transmembrane Signalling (C) 3878
- Vesicular Nanostructures Prepared by Reactive Melt Blending (C) 2154
- Water-Soluble Stimuli-Responsive Vesicles from Peptide-Based Diblock Copolymers (C) 1339

## Vinblastine

- First De Novo Synthesis of the Bisindole Alkaloid Vinblastine (H) 4217

## Viruses

- Icosahedral Virus Particles as Addressable Nanoscale Building Blocks (C) 459

## Vitamin B12

- An Antibody that Reconstitutes the “Base-On” Form of B<sub>12</sub> Coenzymes (C) 3613

## Vitamin E

- Calixarene-Type Macrocycles by Oxidation of Phenols Related to Vitamin E (C) 1171

## Vitamins

- A Method for Thermal Generation of Aryloxyl Radicals at Ambient Temperatures: Application to Low-Density Lipoprotein (LDL) Oxidation (C) 804



## Water chemistry

- Aqueous Catalytic Polymerization of Olefins (R) 544
- A Three-Phase Emulsion/Solid-Heterogenization Method for Transport and Catalysis (C) 4132
- Characterization of a Planar Cyclic Form of Water Hexamer in an Organic Supramolecular Complex: An Unusual Self-Assembly of Bimesityl-3,3'-Dicarboxylic Acid (C) 3417

## Wettability

- Patterning of a Colloidal Crystal Film on a Modified Hydrophilic and Hydrophobic Surface (C) 2067

## Wittig reactions

- Catalytic Electronic Activation: Indirect “Wittig” Reaction of Alcohols (C) 4740



## Xenon

- Gold–Xenon Complexes (C) 454
- Structure of Bis(pentafluorophenyl)xenon, Xe(C<sub>6</sub>F<sub>5</sub>)<sub>2</sub> (C) 448

## X-ray absorption spectroscopy

- Rapid Phase Fluxionality as the Determining Factor in Activity and Selectivity of Highly Dispersed, Rh/Al<sub>2</sub>O<sub>3</sub> in deNO<sub>x</sub> Catalysis (C) 2587
- The Chemistry of the Oxychlorination Catalyst: an In Situ, Time-Resolved XANES Study (C) 2341

## X-ray diffraction

- A New Mononuclear Iron(III) Complex Containing a Peroxocarbonate Ligand (C) 1202
- Aryl C–H Activation by Cu<sup>II</sup> To Form an Organometallic Aryl–Cu<sup>III</sup> Species: A Novel Twist on Copper Disproportionation (C) 2991 Corrigendum: 4370
- A Springlike 3D-Coordination Network That Shrinks or Swells in a Crystal-to-Crystal Manner upon Guest Removal or Readorption (C) 3392
- C–H...O Hydrogen Bond Mediated Chain Reversal in a Peptide Containing a γ-Amino Acid Residue, Determined Directly from Powder X-ray Diffraction Data (C) 494
- Crystal Structure Analysis of 1,1,4,4-Tetrafluorobutadiene and Experimental Determination of the Charge Density of 1,1,4,4-Tetrafluorobutatriene (C) 296
- Crystal-to-Crystal Sliding of 2D Coordination Layers Triggered by Guest Exchange (C) 3395

- Direct Observation of a Cytosine Analogue that Forms Five Hydrogen Bonds to Guanosine: Guanidino G-Clamp (C) 115

- Framework Topology of ERS-10 Zeolite (C) 4109

- Is Fluoride Bonded to Two Pd Acceptors Still Basic? Three CH<sub>2</sub>Cl<sub>2</sub> Molecules Encapsulating a Pd<sub>2</sub>(μ-F)<sub>2</sub> Square and New Implications for Catalysis (C) 4476

- Nanotubes of Group 4 Metal Disulfides (C) 3451

- Observation of Uniaxial Negative Thermal Expansion in an Organic Crystal (C) 754

- Substrate Distortion by a β-Mannanase: Snapshots of the Michaelis and Covalent-Intermediate Complexes Suggest a B<sub>2,5</sub> Conformation for the Transition State (C) 2824

- Syntheses and Crystal Structures of the New Ag–S Clusters [Ag<sub>70</sub>S<sub>16</sub>(SPh)<sub>34</sub>(PhCO<sub>2</sub>)<sub>4</sub>(triphos)<sub>4</sub>] and [Ag<sub>188</sub>S<sub>94</sub>(PR<sub>3</sub>)<sub>30</sub>] (C) 3818

- Template Effects, Asymmetry, and Twinning in Helical Inclusion Compounds (C) 965

- The Determination of the Absolute Configurations of Diastereomers of (S)-Camphanoyl 3-Hydroxy-5-oxohexanoic Acid Derivatives by X-ray Crystallography (C) 1198

- Water-Insoluble Lanthanum Oxochloride-Based Solid Electrolytes with Ultra-High Chloride Ion Conductivity (C) 3890

## X-ray powder diffraction

- Crystal Structure of K<sub>2</sub>[C<sub>2</sub>O<sub>6</sub>]—First Proof of Existence and Constitution of a Peroxodicarbonate Ion (C) 1922



## Ylides

- Catalytic Asymmetric 1,3-Dipolar Cycloaddition Reactions of Azomethine Ylides—A Simple Approach to Optically Active Highly Functionalized Proline Derivatives (C) 4236

- Facile Construction of the Colchicine Skeleton By a Rhodium-Catalyzed Cyclization/Cycloaddition Cascade (C) 1524

- Intramolecular [3 + 2] Cycloaddition of a Nitrilium Phosphane Ylide Complex to the *P*-Phenyl Group of a Wittig Ylide (C) 1186

- Kinetically Controlled Protonation of a Cyclic Phosphamethanide Complex to a PH-Phosphonium Ylide (C) 3367

- Synthesis and Structure of a Biconcave Cobalt Perfluorophthalocyanine and Its Catalysis of Novel Oxidative Carbon–Phosphorus Bonds Formation by Using Air (C) 750

- Synthesis and Structure of (MeN)Ph<sub>2</sub>S=C=SPh<sub>2</sub>(NMe) (C) 2576

## Ynamides

- A Highly Efficient and Flexible Synthesis of Substituted Carbazoles by Rhodium-Catalyzed Inter- and Intramolecular Alkyne Cyclotrimerizations (C) 3281

## Ynamines

- Generation of Polyunsaturated Cumulene Chains by Unprecedented Insertions of the Ynamine MeC≡CNEt<sub>2</sub> in



### Ruthenium(II) Allenylidene Complexes (C) 3439

#### Yttrium

- An Asymmetric Cyanation Reaction and Sequential Asymmetric Cyanation–Nitroaldol Reaction Using a  $[\text{YLi}_3\{\text{tris}(\text{binaphthoxide})\}]$  Single Catalyst Component: Catalyst Tuning with Achiral Additives (C) 3636



#### ZEKE spectroscopy

- ZEKE Photoelectron Spectroscopy of the *cis* and *trans* Isomers of Formanilide (C) 166

#### Zeolite analogues

- A Springlike 3D-Coordination Network That Shrinks or Swells in a Crystal-to-Crystal Manner upon Guest Removal or Readsorption (C) 3392
- $[\text{Co}_5(\text{im})_{10} \cdot 2\text{MB}]_{\infty}$ : A Metal-Organic Open-Framework with Zeolite-Like Topology (C) 1384
- Crystal-to-Crystal Sliding of 2D Coordination Layers Triggered by Guest Exchange (C) 3395
- Hydrothermal Synthesis of Molecular Sieve Fibers: Using Microemulsions to Control Crystal Morphology (C) 476
- Infinite Secondary Building Units and Forbidden Catenation in Metal-Organic Frameworks (C) 284
- Lewis Acidity in Transition-Metal-Doped Microporous Aluminophosphates (C) 4677
- QMOF-1 and QMOF-2: Three-Dimensional Metal–Organic Open Frameworks with a Quartzlike Topology (C) 4471
- Rational Design of Homochiral Solids Based on Two-Dimensional Metal Carboxylates (C) 1159
- Room-Temperature Synthesis in Acidic Media of Large-Pore Three-Dimensional Bicontinuous Mesoporous Silica with *1a3d* Symmetry (C) 3876
- Supramolecular-Wire Confinement of  $\text{I}_2$  Molecules in Channels of the Organic Zeolite  $\text{Tris}(o\text{-phenylenedioxy})\text{cyclotriphosphazene}$  (C) 2281
- Taking Nanocasting One Step Further: Replicating CMK-3 as a Silica Material (C) 3489

#### Zeolites

- Computational Prediction of the Phase Transformation of Two As-Synthesized Oxyfluorinated Compounds into the Zeotype CHA Forms (C) 972
- Direct Evidence for the Nonrandom Nature of Al Substitution in Zeolite ZSM-5: An Investigation by  $^{27}\text{Al}$  MAS and MQ MAS NMR (C) 469
- Electron-Hole Pairs Stabilized in Al-ZSM-5 Zeolites (C) 1241
- Encapsulated Lanthanides as Luminescent Materials (H) 2495
- Framework Topology of ERS-10 Zeolite (C) 4109
- Mechanism of the Transformation of Silica Precursor Solutions into Si-MFI Zeolite (C) 2558

- Morphological Control of MCM-41 by Pseudomorphic Synthesis (C) 2590
  - Open-Framework Nickel Succinate,  $[\text{Ni}_7(\text{C}_4\text{H}_4\text{O}_4)_6(\text{OH})_2(\text{H}_2\text{O})_2] \cdot 2\text{H}_2\text{O}$ : A New Hybrid Material with Three-Dimensional Ni–O–Ni Connectivity (C) 457
  - Preferential Location of Ge Atoms in Polymorph C of Beta Zeolite (ITQ-17) and Their Structure-Directing Effect: A Computational, XRD, and NMR Spectroscopic Study (C) 4722
  - Surface Structure and Crystal Growth of Zeolite Beta C (C) 1235
  - The Structure of the Peroxo Species in the TS-1 Catalyst as Investigated by Resonant Raman Spectroscopy (C) 4734
  - Trapping Energy from and Injecting Energy into Dye–Zeolite Nanoantennae (C) 2284
  - Ultrastable and Highly Acidic, Zeolite-Coated Mesoporous Aluminosilicates (C) 1036
  - Understanding Zeolite Catalysis: Inverse Shape Selectivity Revised (C) 2499
- #### Ziegler–Natta catalysts
- Catalysts for the Living Insertion Polymerization of Alkenes: Access to New Polyolefin Architectures Using Ziegler–Natta Chemistry (R) 2236
  - Direct Observation of Radicals in the Activation of Ziegler–Natta Catalysts (C) 1517
  - Formation of a Butadienenickel-Based Zwitterionic Single-Component Catalyst for Ethylene Polymerization: An Alternative Activation Pathway for Homogeneous Ziegler–Natta Catalysts of Late Transition Metals (C) 2543

#### Zinc

- A Dendritic Porphyrin Receptor for  $\text{C}_{60}$  Which Features a Profound Positive Allosteric Effect (C) 2790
- A Dinuclear Zn Catalyst for the Asymmetric Nitroaldol (Henry) Reaction (C) 861
- A Self-Assembled Porphyrin Box from *meso*–*meso*-Linked Bis[5-*p*-pyridyl-15-(3,5-di-*o*-octyloxyphenyl)]porphyrinato zinc(II) (C) 2817
- A Springlike 3D-Coordination Network That Shrinks or Swells in a Crystal-to-Crystal Manner upon Guest Removal or Readsorption (C) 3392
- Asymmetric, Catalytic Phenyl Transfer to Imines: Highly Enantioselective Synthesis of Diarylmethylamines (C) 3692
- Catalytic Asymmetric 1,3-Dipolar Cycloaddition Reactions of Azomethine Ylides—A Simple Approach to Optically Active Highly Functionalized Proline Derivatives (C) 4236
- Controlled Hierarchical Self-Assembly and Deposition of Nanoscale Photonic Materials (C) 2117
- Dynamic Acylhydrazone Metal Ion Complex Libraries: A Mixed-Ligand Approach to Increased Selectivity in Extraction (C) 4096
- First Synthesis of Optically Pure Propargylic *N*-Hydroxylamines by Direct, Highly Diastereoselective Addition of Terminal Alkynes to Nitrones (C) 3054
- Infinite Secondary Building Units and Forbidden Catenation in Metal-Organic Frameworks (C) 284
- Introduction of Bulky Perfluoroalkyl Groups at the Periphery of Zinc Per-

- fluorophthalocyanine: Chemical, Structural, Electronic, and Preliminary Photo-physical and Biological Effects (C) 747
- Iron-Catalyzed Polyethylene Chain Growth on Zinc: Linear  $\alpha$ -Olefins with a Poisson Distribution (C) 489
- Novel, Acentric Metal–Organic Coordination Polymers from Hydrothermal Reactions Involving In Situ Ligand Synthesis (C) 3800
- Phase-Sensitive Supramolecular Chirogenesis in Bisporphyrin Systems (C) 1378
- Remarkable Cooperativity between a  $\text{Zn}^{\text{II}}$  Ion and Guanidinium/Ammonium Groups in the Hydrolysis of RNA (C) 4013

- Remarkably High 1,5-Diastereoselectivity in a Nickel-Catalyzed Conjugate Addition of  $\text{Me}_2\text{Zn}$  and Carbonyl Compounds to 1, $\omega$ -Dienynes with Through-Space Coupling (C) 2784
- Self-Assembly of  $\text{ZnO}$ : From Nanodots to Nanorods (C) 1188
- Stereoselective Pinacol-Type Rearrangement of 2,3-Epoxy Alcohols with Retention of Configuration Mediated by Bis(iodozincio)methane (C) 2837
- Total Synthesis of Amphidinolide T4 (C) 4763
- Zinc(II) Slides on a Ligand Surface: The X-Ray Crystal Structure and Dynamic Behavior in Solution of  $[\text{Zn}(\text{H}_2\text{L})(\text{tacn})]$  (C) 2076
- $[\text{Zn}_4(\text{thf})_4(\text{MeZn})_4(\text{O}_3\text{SiR})_4]$  ( $\text{R} = 2,6\text{-}i\text{-Pr}_2\text{C}_6\text{H}_3\text{N}(\text{SiMe}_3)$ ), A Compound Containing Trigonal-Planar, Tetrahedral, and Trigonal-Bipyramidal Metal Atoms: A New Route to Larger Aggregates (C) 1226

#### Zincophorin

- A Synthetic Approach towards the C1–C9 Subunit of Zincophorin (C) 2144

#### Zintl anions

- $[\{\text{Li}(\text{thf})_3\}_2\text{Ga}_2\{\text{As}(\text{Si}(\text{Pr})_3)_4\}]$ —A Compound with Gallium–Arsenic Double Bonds (C) 2095
- $[\text{HgGe}_9]^{2-}$ —A Polymer with Zintl Ions as Building Blocks Covalently Linked by Heteroatoms (C) 3213

#### Zintl phases

- Cubane with a Handle:  $[\{\text{In}_3\text{-As}_4\text{Nb}\}-\text{As}]^{7-}$  in  $\text{Cs}_7\text{NbIn}_3\text{As}_5$  (C) 1232

#### Zirconium

- A New Protocol for the Enantioselective Synthesis of Methyl-Substituted Alkanols and Their Derivatives through a Hydroalumination/Zirconium-Catalyzed Alkylaluminum Tandem Process (C) 2141
- $\text{As}[\text{P}(\text{NMe}_2)_3]_2^+$  as Simultaneous  $\text{As}^{\text{I}}$  and  $\text{P}^{\text{I}}$  Source: Synthesis and Density Function Calculations of Planar Tetracoordinate Arsonium and Phosphonium Ions (C) 450
- From Vinyl Sulfides, Sulfoxides, and Sulfones to Vinyl Transition Metal Complexes (C) 1410
- Functionalization of Elemental Phosphorus with  $[\text{Zr}(\eta^5\text{-C}_5\text{Me}_5)(\eta^5\text{-C}_5\text{H}_4\text{tBu})_2]$  (C) 3463
- IAN-Amines: Direct Entry to a Chiral  $\text{C}_2$ -Symmetric Zirconium(IV)  $\beta$ -Diketimine Complex (C) 345
- Structural Characterization of a Cationic Zirconocene Olefin Polymerization Catalyst with its Methylated Boralumoxane Counterion (C) 2166