# **Subject Index**

### Abacopterins K and L

Two New Flavonoids from the Rhizomes of Abacopteris penangiana, 446

## Abacopteris penangiana

Two New Flavonoids from the Rhizomes of Abacopteris penangiana, 446

### Abietane diterpenoids

Two New Abietane Diterpenoids from the Stems of Clerodendrum kaichianum P. S. Hsu, 539

#### Acetal

An Efficient Photoinduced Deprotection of Aromatic Acetals and Ketals, 331

#### Acetamides, α-hydroxy-

Silica Nanoparticles as a Highly Efficient Catalyst for the One-Pot Synthesis of 2-Hydroxyacetamide Derivatives from Isocyanides and Electron-Poor Aromatic Aldehydes, 611

#### Acetonitrile

Kinetics and Mechanism of Certain Acetylation Reactions with Acetamide/Oxychloride in Acetonitrile under Vilsmeier–Haack Conditions, 2168

### Acetonitrile, trichloro-

Trichloroacetonitrile as a Source of Positive Chlorine Ion for Trapping Huisgen's Zwitterions, 811

### Acetonitriles, 2-aryl-2-bromo-

An Unexpected Result of the Reaction of Benzothioamide Derivatives with 2-Aryl-2-bromoacetonitriles, 2039

### Acetophenones

Kinetics and Mechanism of Certain Acetylation Reactions with Acetamide/Oxychloride in Acetonitrile under Vilsmeier–Haack Conditions, 2168

#### Acetoxydehydroaustin B

Two New Meroterpenes from the Mangrove Endophytic Fungus Aspergillus sp. 085241B, 1875

### Acetylcholine mimetics

Synthesis and Characterization of Enantiomerically Pure cis- and trans-3-Fluoro-2,4-dioxa-9-aza-3-phosphadecalin 3-Oxides as Acetylcholine Mimetics and Inhibitors of Acetylcholinesterase, 746

### Acetylcholinesterase

Synthesis and Characterization of Enantiomerically Pure cis- and trans-3-Fluoro-2,4-dioxa-9-aza-3-phosphadecalin 3-Oxides as Acetylcholine Mimetics and Inhibitors of Acetylcholinesterase, 746

## Acetylenedicarboxylate, dialkyl

Synthesis of Dialkyl 2-(Alkylamino)-4,9-dihydro-9-oxocyclohepta[b]pyran-3,4-dicarboxylates, 371

# Acetylene-epoxide coupling

An Iterative Acetylene-Epoxide Coupling Strategy for the Total Synthesis of Aspinolide A, 224

### Acetylenic acids, brominated

Xestospongienols A-L, Brominated Acetylenic Acids from the Chinese Marine Sponge Xestospongia testudinaria, 1600

# Aconicarchamines A and B

Two New C<sub>20</sub>-Diterpenoid Alkaloids from Aconitum carmichaelii, 122

# Aconitum carmichaeli

Two New C<sub>20</sub>-Diterpenoid Alkaloids from Aconitum carmichaelii, 122

## Aconitum hemsleyanum

Hemsleyaconitines F and G, Two Novel C<sub>19</sub>-Diterpenoid Alkaloids Possessing a Unique Skeleton from *Aconitum hemsleyanum*, 268

### Acridone alkaloids

Citropremide and Citropridone: A New Ceramide and a New Acridone Alkaloid from the Stem Bark of Citropsis gabunensis, 1035

### Activated acetylene

Trichloroacetonitrile as a Source of Positive Chlorine Ion for Trapping Huisgen's Zwitterions, 811

### Active methylene compounds

An Efficient One-Pot, Four-Component Synthesis of  $\{[(1H-1,2,3-Triazol-4-yl)methoxy]phenyl\}-1H-pyrazolo[1,2-b]phthalazine-5,10-dione Derivatives, 1416$ 

### Acyclovir

A Concise Route to Valacyclovir Hydrochloride, 592

### O-Acylation

Synthesis of Ring A-Modified Baicalein Derivatives, 2221

### Adenine, 2,6-diamino-

The 't-Amino Effect' of ortho-Nitroso Amines. Synthesis of 2,6-Diaminoadenine Derivatives from 6-(Dialkylamino)-5-nitrosopyrimidines, 785

## Agave sisanala

Two New Steroidal Saponins from the Fresh Leaves of Agave sisalana, 1351

### Agriminia pilosa

Sesquiterpenoids from Fusarium sp., an Endophytic Fungus in Agriminia pilosa, 1254

### Agripilols A-D

Sesquiterpenoids from Fusarium sp., an Endophytic Fungus in Agriminia pilosa, 1254

### Ajabicine, 14,17-dihydro-14,17-dihydroxy-

Two New C<sub>20</sub>-Diterpenoid Alkaloids from Aconitum carmichaelii, 122

#### Alarm cues

Isolation and Structural Elucidation of Novel Mycosporine-Like Amino Acids as Alarm Cues in the Defensive Ink Secretion of the Sea Hare *Aplysia californica*, 1012

#### Alcohols

Bismuth(III) Chloride-Catalyzed Highly Efficient Transesterification of  $\beta$ -Keto Esters, 119

#### Aldehydes

Efficient Synthesis of [1,3]Oxazino[3,2-f]phenanthridine Derivatives by a Novel 1,4-Dipolar Cycloaddition Involving a Phenanthridine–Dimethyl Acetylenedicarboxylate Zwitterion and Aromatic Aldehydes, 169 One-Pot Synthesis of Pyrimidines via Cyclocondensation of  $\beta$ -Bromovinyl Aldehydes with Amidine Hydrochlorides, 487

Reactions of Verbenol Epoxide with Aromatic Aldehydes Containing Hydroxy or Methoxy Groups in the Presence of Montmorillonite Clay, 502

Silica Nanoparticles as a Highly Efficient Catalyst for the One-Pot Synthesis of 2-Hydroxyacetamide Derivatives from Isocyanides and Electron-Poor Aromatic Aldehydes, 611

A Novel Synthesis of  $\gamma$ , $\delta$ -Unsaturated Aldehydes from  $\alpha$ -Formyl- $\gamma$ -lactones, 1216

## Aldol condensation

First Synthesis of a C-Homosteroid from Pregn-4-ene-3,11,20-trione, 98

# Aldol reaction

Asymmetric Synthesis of Simplactones A and B, 1481

Synthesis of  $\beta$ -Hydroxy  $\alpha$ -Sulfanyl Esters by Using Nanocrystalline Magnesium Oxide, 1533

### Alkaloids

Two New  $C_{20}$ -Diterpenoid Alkaloids from Aconitum carmichaelii, 122

Amaryllidaceae Alkaloids from Lycoris radiata, 178

Diterpenoid Alkaloids from Delphinium yunnanense, 254

Hemsleyaconitines F and G, Two Novel C<sub>19</sub>-Diterpenoid Alkaloids Possessing a Unique Skeleton from *Aconitum hemsleyanum*, 268

Two New Constituents from Torricellia tiliifolia Stem Barks, 327

Optical Resolution and Structure Determination of New Indolizidine Alkaloids from *Elaeocarpus sphaericus*,

Further Alkaloids from the Fruits of Daphniphyllum longeracemosum, 397

New Eremophilenolides from Senecio dianthus, 474

Two Antioxidant Alkaloids from Portulaca oleracea L., 497

Two New Alkaloids from the Aerial Part of Peganum nigellastrum, 514

Ophiobolin Sesterterpenoids and Pyrrolidine Alkaloids from the Sponge-Derived Fungus Aspergillus ustus, 623

Secondary Metabolites from Magnolia kachirachirai, 703

Diterpenoid Alkaloids from Delphinium tatsienense, 853

The Woodward Research Institute, Robert Burns Woodward (1917–1979) and Chemistry behind the Glass Door 923

Two New Alkaloids from Daphniphyllum angustifolium HUTCH., 1019

Citropremide and Citropridone: A New Ceramide and a New Acridone Alkaloid from the Stem Bark of Citropsis gabunensis, 1035

Three New Sesquiterpene Pyridine Alkaloids from Euonymus fortunei, 1139

Two New Indole Alkaloids from the Bark of Anthocephalus chinensis, 1470

Two New Cytotoxic Alkaloids from Mappianthus iodoides HAND.-MAZZ., 1594

Secondary Metabolites from the Fungus Monascus purpureus and Evaluation of Their Cytotoxic Activity, 1638

Streptomycindole, an Indole Alkaloid from a Marine Streptomyces sp. DA22 Associated with South China Sea Sponge Craniella australiensis, 1838

## Alkylamines

Reaction of Primary Alkylamines, Heterocumulenes, and Isatoic Anhydride, Catalyzed by Magnetic Fe<sub>3</sub>O<sub>4</sub> Nanoparticles in H<sub>2</sub>O, 1825

#### O-Alkylation

Synthesis of Ring A-Modified Baicalein Derivatives, 2221

#### Alkvnes

Acetylenic Tetrathiafulvalene Scaffolds - Intramolecular Charge-Transfer Molecules, 1743

#### Alloxazine

Synthesis of Flavin-Calix[4] arene Conjugate Derivatives, 481

#### Allylation

Allylation of *N*-Benzoylhydrazones (= *N*-Alkylidene-Substituted Benzohydrazides) by Treatment with Allyl Bromide in the Presence of Zinc in Aqueous Ammonium Chloride Solution, 1477

#### Alzheimer's disease

An Efficient Synthesis of a (-)-Physostigmine's Library for Identifying Potential Anti-Alzheimer's Agents, 1496

### Amaryllidaceae alkaloids

Amaryllidaceae Alkaloids from Lycoris radiata, 178

## Amides, phenolic

Dimorphamides A-C, New Polyphenolic Amides from Atriplex dimorphostagia, 528

### Amidine hydrochlorides

One-Pot Synthesis of Pyrimidines via Cyclocondensation of  $\beta$ -Bromovinyl Aldehydes with Amidine Hydrochlorides, 487

### Amination

Synthesis of Diheteroarylamine Ligands by Palladium-Catalyzed Mono- and Diamination of Dichloroheteroarenes with Heteroarenamines, 46

### Amines

A Facile Synthesis of 2-Imino-4-methylene-1,3-dithiolanes, 831

A Novel, One-Pot Four-Component Route to 2'-Thioxo-2',3'-dihydrospiro[indole-3,6'-[1,3]thiazin]-2-one Derivatives, 1315

### Amino acids

Preparation of the  $\beta^2$ -Homoselenocysteine Derivatives Fmoc-(S)- $\beta^2$ hSec(PMB)-OH and Boc-(S)- $\beta^2$ hSec(PMB)-OH for Solution and Solid-Phase Peptide Synthesis, 1

Stereocontrolled Synthesis of Unnatural Tetrapeptides Containing L-Valine Units. Part 3, 127

Isolation and Structural Elucidation of Novel Mycosporine-Like Amino Acids as Alarm Cues in the Defensive Ink Secretion of the Sea Hare *Aplysia californica*, 1012

Stereoselective Preparation of 3-Amino-2-fluoro Carboxylic Acid Derivatives, and Their Incorporation in Tetrahydropyrimidin-4(1H)-ones, and in Open-Chain and Cyclic  $\beta$ -Peptides, 1908

#### 't-Amino effect'

The 't-Amino Effect' of ortho-Nitroso Amines. Synthesis of 2,6-Diaminoadenine Derivatives from 6-(Dialkylamino)-5-nitrosopyrimidines, 785

### 2-Aminoisobutyric acid (Aib)

Synthesis of Poly-Aib Oligopeptides and Aib-Containing Peptides via the 'Azirine/Oxazolone Method', and Their Crystal Structures, 993

### α-Aminophosphonic acid monoesters

Asymmetric Mannich-Type Synthesis of N-Phosphinyl α-Aminophosphonic Acid Monoesters, 1586

#### Anemone tomentosa

Two Glycosides and Other Constituents from Anemone tomentosa Roots, 711

#### Anilides, ortho-nitro-

Synthesis of Benzimidazoles by Phosphine-Mediated Reductive Cyclisation of ortho-Nitro-anilides, 977

#### A milina

Synthesis of 1,4-Diazabutadienes (= N,N'-Ethane-1,2-diylidenebis[amines]) by Grinding, 159

#### Annona sauamosa

Three New Triterpenes from Xylarialean sp. A45, an Endophytic Fungus from Annona squamosa L., 301

#### Annulenes

Acetylenic Tetrathiafulvalene Scaffolds – Intramolecular Charge-Transfer Molecules, 1743

#### Annulohypoxylon boyeri yar, microspora

Constituents of the Endophytic Fungus Annulohypoxylon boveri var. microspora BCRC 34012, 1108

### Anthocephalus chinensis

Two New Indole Alkaloids from the Bark of Anthocephalus chinensis, 1470

#### Anthracenes

Anthracene and Anthraquinone Derivatives from the Stem Bark of Juglans mandshurica MAXIM., 1488

#### Anthraquinone glycosides

New Anthraquinone and Iridoid Glycosides from the Stems of Hedyotis hedyotidea, 675

### Anthraquinones

Chemical Constituents from Fruits and Stem Bark of Celtis australis L., 464

Anthracene and Anthraquinone Derivatives from the Stem Bark of Juglans mandshurica MAXIM., 1488

A New Anthraquinone and Two New Tetrahydroanthraquinones from the Roots of *Prismatomeris connata*, 1843

### **Antibacterial activity**

Two Unusual Phenolic Substances and One New Xanthone from Hypericum sampsonii, 686

### Antibiotic activity

Two New 23-Membered Macrolactones from a Terrestrial Bacterium, Streptomyces sp. IMBJ01, 1448

# Anticancer drugs

Novel Benzyl- or 4-Cyanobenzyl-Substituted N-Heterocyclic (Bromo)(carbene)silver(I) and (Carbene)-(chloro)gold(I) Complexes: Synthesis and Preliminary Cytotoxicity Studies, 1551

### Antimicrobial activity

Nine New Norlabdane Diterpenoids from the Leaves of Austroeupatorium inulifolium, 313

Antimicrobial Depsides Produced by *Cladosporium uredinicola*, an Endophytic Fungus Isolated from *Psidium guajava* Fruits, 1077

Isoprenoids and Flavonoids with Antimicrobial Activity from Ficus conraui WARBURG (Moraceae), 2231

## Antioxidant activity

Two Antioxidant Alkaloids from Portulaca oleracea L., 497

Two Unusual Xanthones from the Bark of Garcinia xanthochymus, 662

Anthracene and Anthraquinone Derivatives from the Stem Bark of Juglans mandshurica MAXIM., 1488

Two New Prenylated Xanthones from the Pericarp of Garcinia mangostana (Mangosteen), 2092

## Antiplatelet activity

Exquisite Synthesis of a Designed PAR-1 Antagonist, 1981

## Anti-platelet-aggregation activity

Caragisides A-C, New Isoflavone Glucosides from *Caragana conferta* with Inhibition of Platelet Aggregation, 438

### Antiproliferative activity

Three New Neolignans and One New Phenylpropanoid from the Leaves and Stems of *Toona ciliata* var. pubescens, 1685

### Antiviral activity

A Concise Route to Valacyclovir Hydrochloride, 592

### Aplysia californica

Isolation and Structural Elucidation of Novel Mycosporine-Like Amino Acids as Alarm Cues in the Defensive Ink Secretion of the Sea Hare *Aplysia californica*, 1012

#### Aplysiapalythines A - C

Isolation and Structural Elucidation of Novel Mycosporine-Like Amino Acids as Alarm Cues in the Defensive Ink Secretion of the Sea Hare *Aplysia californica*, 1012

### Aporphine alkaloids

Secondary Metabolites from Magnolia kachirachirai, 703

### Ardisia crenata

Three New Triterpenoid Saponins from Ardisia crenata, 693

### Ardisicrenosides I-M

Three New Triterpenoid Saponins from Ardisia crenata, 693

### Artemisia pallens

Phytochemical Investigation of Artemisia pallens, 73

### Aryl propargyl ethers

CuBr/FeCl<sub>3</sub> Catalysis: a Novel and Efficient Method for the Preparation of New Aryl (Iminomethyl)propargyl Ether Derivatives via C-H Activation of Aryl Propargyl Ethers, 1692

#### Ascorbate

Ions Can Move a Proton-Coupled Electron-Transfer Reaction into Tunneling Regime, 1718

### Aspartic acid

Stereocontrolled Synthesis of Unnatural Tetrapeptides Containing L-Valine Units. Part 3, 127

## Aspergillus species

Furanone Derivatives from Aspergillus sp. XW-12, an Endophytic Fungus in Huperzia serrata, 1454 Two New Meroterpenes from the Mangrove Endophytic Fungus Aspergillus sp. 085241B, 1875

#### Aspergillus tubingensis

Cytotoxic Naphtho-γ-pyrones from the Mangrove Endophytic Fungus Aspergillus tubingensis (GX1-5E), 1732

### Aspergillus ustus

Ophiobolin Sesterterpenoids and Pyrrolidine Alkaloids from the Sponge-Derived Fungus Aspergillus ustus, 623

# Aspergillus versicolor

Two New Cyclic Pentapeptides from the Marine-Derived Fungus Aspergillus versicolor, 1065

# Aspinolide A

An Iterative Acetylene–Epoxide Coupling Strategy for the Total Synthesis of Aspinolide A, 224

## Association

Oligonucleotide Analogues with Integrated Bases and Backbone. Part 28. Hydrazide- and Amide-Linked Analogues. 2. Di-, Tetra-, Octa-, and Decamers: Synthesis and Association, 1153

### Asterella angusta

Stereochemical Investigation of Macrocyclic Bisbibenzyls with a Stereogenic Center at One of the Ethylene Bridges, 2077

# Asterolaurins G-J

Asterolaurins G-J, New Xenicane Diterpenoids from the Taiwanese Soft Coral Asterospicularia laurae, 273

### Asterospicularia laurae

Asterolaurins G-J, New Xenicane Diterpenoids from the Taiwanese Soft Coral Asterospicularia laurae, 273

### Astragalus membranaceus

Huangqiyenins G-J, Four New 9,10-Secocycloartane (=9,19-Cyclo-9,10-secolanostane) Triterpenoidal Saponins from *Astragalus membranaceus* BUNGE Leaves, 2239

### Astragalus species

Cycloartane Glycosides from Three Species of Astragalus (Fabaceae), 230

### Atriplex dimorphostagia

Dimorphamides A-C, New Polyphenolic Amides from Atriplex dimorphostagia, 528

#### Atropisomers

Stereochemical Investigation of Macrocyclic Bisbibenzyls with a Stereogenic Center at One of the Ethylene Bridges, 2077

### Atroxima liberica

Acylated Triterpene Saponins from Atroxima liberica STAPF, 2066

#### Austroeupatorium inulifolium

Nine New Norlabdane Diterpenoids from the Leaves of Austroeupatorium inulifolium, 313

#### Aza-Henry reaction

Highly Enantioselective Synthesis of Orthogonally Protected (2S)-2,3-Diaminopropanoates through Catalytic Phase-Transfer Aza-Henry Reaction, 1543

#### 5-Azaisocoumarins

Tandem Palladium/Charcoal-Copper(I) Iodide (Pd/C-CuI) Catalyzed *Sonogashira* Coupling and Intramolecular Cyclization from 2-Bromonicotinic Acid (= 2-Bromopyridine-3-carboxylic Acid) and Ethynylarenes to 4-Azaphthalides (= Furo[3,4-b]pyridin-5(7H)-ones) and 5-Azaisocoumarins (= 5H-Pyrano[4,3b]pyridin-5-ones), 1792

#### **Azaphilone metabolites**

Constituents of the Endophytic Fungus *Annulohypoxylon boveri* var. *microspora* BCRC 34012, 1108 Secondary Metabolites from the Fungus *Monascus purpureus* and Evaluation of Their Cytotoxic Activity, 1638

### 4-Azaphthalides

Tandem Palladium/Charcoal-Copper(I) Iodide (Pd/C-CuI) Catalyzed *Sonogashira* Coupling and Intramolecular Cyclization from 2-Bromonicotinic Acid (= 2-Bromopyridine-3-carboxylic Acid) and Ethynylarenes to 4-Azaphthalides (= Furo[3,4-b]pyridin-5(7H)-ones) and 5-Azaisocoumarins (= 5H-Pyrano[4,3b]pyridin-5-ones), 1792

#### Azatwistane

The Woodward Research Institute, Robert Burns Woodward (1917–1979) and Chemistry behind the Glass Door, 923

## Aza-Wittig reaction

The Reaction of (N-Isocyanimino)triphenylphosphorane with Biacetyl in the Presence of Aromatic Carboxylic Acids: Efficient One-Pot Three-Component Reaction for the Synthesis of 3-(5-Aryl-1,3,4-oxadiazol-2-yl)-3-hydroxybutan-2-one Derivatives, 282

One-Pot, Four-Component Synthesis of Fully Substituted 1,3,4-Oxadiazole Derivatives from (Isocyanoimino)triphenylphosphorane, a Primary Amine, an Aromatic Carboxylic Acid, and Chloroacetone, 1024

### Azide

A Concise Route to Valacyclovir Hydrochloride, 592

# Azirine/oxazolone method

Synthesis of Poly-Aib Oligopeptides and Aib-Containing Peptides *via* the 'Azirine/Oxazolone Method', and Their Crystal Structures, 993

### Baeckea frutescens

Baeckeins A and B, Two Novel 6-Methylflavonoids from the Roots of Baeckea frutescens, 2283

## Baeckeins A and B

Baeckeins A and B, Two Novel 6-Methylflavonoids from the Roots of Baeckea frutescens, 2283

### Baicalein

Synthesis of Ring A-Modified Baicalein Derivatives, 2221

### Barbatellarines C-E

Neoclerodane Diterpenoids from the Aerial Part of Scutellaria barbata, 643

# Barbituric acid

Convergent Domino *Knoevenagel* Hetero-*Diels-Alder* and Domino Oxidation Hetero-*Diels-Alder* Reactions Encountered in an Unexpected Formation of Novel 5-Aryl-1*H*-pyrano[2,3-*d*]pyrimidine-2,4(3*H*,5*H*)-diones and 5-Aryl-2,3-dihydro-2-thioxo-1*H*-pyrano[2,3-*d*]pyrimidin-4(5*H*)-ones, 859

#### Base pairing

Oligonucleotide Analogues with Integrated Bases and Backbone. Part 27. Synthesis and Association of Thiomethylene-Linked Cytidine-Derived Dinucleosides and Tetranucleosides, 545

#### Bathochromic shift

On the Reactions of Furan-2,3-diones with Oxindole (=1,3-Dihydro-2*H*-indol-2-one) and *Lawesson* Reagent. Synthesis of New 1,3-Dihydro-2*H*-indol-2-ones, Bis-furanones, and Bis-pyrrolones, 801

### Baylis-Hillman acetates

Synthesis of Allyl Aryl Sulfone Derivatives from Baylis-Hillman Acetates in Water, 875

#### Beilschmiedia anacardioides

Beilschmiedic Acids F and G, Further Endiandric Acid Derivatives from Beilschmiedia anacardioides, 1071

### Beilschmiedic acids F and G

Beilschmiedic Acids F and G, Further Endiandric Acid Derivatives from Beilschmiedia anacardioides, 1071

#### Benzaldehydes

Kinetics and Mechanism of Certain Acetylation Reactions with Acetamide/Oxychloride in Acetonitrile under Vilsmeier–Haack Conditions, 2168

### Benzenes, 1-bromo-2-fluoro-

Two-Step Synthesis of 1,3-Disubstituted 3,4-Dihydro-4-thioxoquinazolin-2(1*H*)-ones from 1-Bromo-2-fluorobenzenes, 67

### Benzenesulfinates

Synthesis of Allyl Aryl Sulfone Derivatives from Baylis-Hillman Acetates in Water, 875

#### Renzimidazoles

Synthesis of Benzimidazoles by Phosphine-Mediated Reductive Cyclisation of ortho-Nitro-anilides, 977Boric Acid-Catalyzed Direct Condensation of Carboxylic Acids with Benzene-1,2-diamine into Benzimidazoles, 1860

#### Benzohydrazides, N'-alkylidene-

Allylation of N-Benzoylhydrazones (= N-Alkylidene-Substituted Benzohydrazides) by Treatment with Allyl Bromide in the Presence of Zinc in Aqueous Ammonium Chloride Solution, 1477

#### 2H-1-Benzopyran-3-carboxylates

Facile Synthesis of Substituted Ethyl 2-(Chloromethyl)-2-hydroxy-2H-1-benzopyran-3-carboxylates, 248

## 4H-3,1-Benzothiazine-4-acetic acid derivatives

One-Pot Syntheses of 2-(2-Sulfanyl-4*H*-3,1-benzothiazin-4-yl)acetic Acid Derivatives *via* Reactions of 3-(2-Isothiocyanatophenyl)prop-2-enoic Acid Derivatives with Thiols or Sodium Sulfide, 111

### 3,1-Benzoxazepines, 4,5-dihydro-

One-Pot Synthesis of 2-Substituted 4-Aryl-4,5-dihydro-3,1-benzoxazepines from 2-(2-Aminophenyl)-1-arylethanols via Dehydration of the Corresponding Amides, 987

## 4H-3,1-Benzoxazine-2,4-dione, 1,2-dihydro-

Reaction of Primary Alkylamines, Heterocumulenes, and Isatoic Anhydride, Catalyzed by Magnetic Fe<sub>3</sub>O<sub>4</sub> Nanoparticles in H<sub>2</sub>O<sub>4</sub> 1825

### 4H-3,1-Benzoxazin-4-one

Synthesis of a Novel Series of 2,3-Disubstituted Quinazolin-4(3*H*)-ones as a Product of a Nucleophilic Attack at C(2) of the Corresponding 4*H*-3,1-Benzoxazin-4-one, 389

### Benzoylhydrazones

Allylation of N-Benzoylhydrazones (= N-Alkylidene-Substituted Benzohydrazides) by Treatment with Allyl Bromide in the Presence of Zinc in Aqueous Ammonium Chloride Solution, 1477

### Benzyl cation

Synthesis of 9,9-Disubstituted 9*H*-Pyrrolo[1,2-*a*]indoles by Hydriodic Acid-Catalyzed Cyclization of 1-[2-(1-Aryl(or methyl)ethenyl)phenyl]-1*H*-pyrroles, 1277

### Benzyl(triphenyl)phosphonium dichloroiodate

Synthesis, Characterization, X-Ray Structural Analysis, and Iodination Ability of Benzyl(triphenyl)phosphonium Dichloroiodate, 2248

## Biacetyl

The Reaction of (N-Isocyanimino)triphenylphosphorane with Biacetyl in the Presence of Aromatic Carboxylic Acids: Efficient One-Pot Three-Component Reaction for the Synthesis of 3-(5-Aryl-1,3,4-oxadiazol-2-yl)-3-hydroxybutan-2-one Derivatives, 282

#### Biflavonoids

Five New Biflavonoids from Daphne aurantiaca, 1239

#### Biginelli reaction

A Different Role of Meldrum's Acid in the Biginelli Reaction, 199

### Binaphthoquinones

Two New Cytotoxic Naphthoquinones from Didymocarpus hedyotideus, 404

### **Biocatalysis**

Bioreduction of Acetophenone Derivatives by Red Marine Algae *Bostrychia radicans* and *B. tenella*, and Marine Bacteria Associated, 1506

### Biogenetic pathway

Three New 3,6-Dioxygenated Diketopiperazines from the Basidiomycete Lepista sordida, 1426

#### Bis[bibenzyls]

Stereochemical Investigation of Macrocyclic Bisbibenzyls with a Stereogenic Center at One of the Ethylene Bridges, 2077

### Bismuth(III) halide

Bismuth(III) Chloride-Catalyzed Highly Efficient Transesterification of  $\beta$ -Keto Esters, 119

#### Bisnorstriatols

Bisresorcinol Derivatives from Grevillea glauca, 1812

#### 'Bis-nucleophile'

A Facile Synthesis of Bridged Polycyclic Naphthooxazocine Skeletons: Eight-Membered-Ring Constructions via Tandem Dinucleophilic Addition of Naphthalenols to Quinolinium Salts, 142

#### Bisresorcinols

Bisresorcinol Derivatives from Grevillea glauca, 1812

### **Boric** acid

Boric Acid-Catalyzed Direct Condensation of Carboxylic Acids with Benzene-1,2-diamine into Benzimidazoles, 1860

### Botryosphaeria australis

New Polyketides Isolated from Botryosphaeria australis Strain ZJ12-1A, 897

### Botryosphaerones A-D

New Polyketides Isolated from Botryosphaeria australis Strain ZJ12-1A, 897

### Bredereck reagent

New Approach for the Construction of the Coumarin Frame and Application in the Total Synthesis of Natural Products, 185

### Briggs-Rauscher reaction

A Novel Briggs-Rauscher Oscillation with a Macrocyclic Nickel(II) Complex as Catalyst and Pentane-2,4-dione as the Substrate, 903

# N-Bromosuccinimide

N-Bromosuccinimide (NBS): A Novel and Efficient Catalyst for the Synthesis of 14-Aryl-14H-dibenzo[a,j]-xanthenes under Solvent-Free Conditions, 429

# Broussonetia papyrifera

Euphane Triterpenes from the Bark of Broussonetia papyrifera, 2061

## Brucea javanica

Bruceines K and L from the Ripe Fruits of Brucea javanica, 2099

# Bruceines K and L

Bruceines K and L from the Ripe Fruits of Brucea javanica, 2099

# Bruguiera sexangula

Oleanane-Type Triterpenoids from the Endophytic Fungus *Pestalotiopsis clavispora* Isolated from the Chinese Mangrove Plant *Bruguiera sexangula*, 1041

# **Butananilides, 4-hydroxy-2-methyl-**

Reactions with 4-Hydroxy-2-methylbutananilides: Unexpected Formation of a Cyclopropanecarboxamide, 28

# Butanoate, ethyl 4-chloro-3-oxo-

Facile Synthesis of Substituted Ethyl 2-(Chloromethyl)-2-hydroxy-2H-1-benzopyran-3-carboxylates, 248

### Butano-4-lactams, a-methylidene-

A Convenient Synthesis of Functionalized α-Methylidenebutano-4-lactams, 1662

#### y-Butenolactone derivatives

Indium(III) Chloride-Catalyzed Conversion of {[(Benzyloxy)carbonyl]amino}-Substituted Sulfones with 2-[(Trimethylsilyl)oxy]furan: A Facile Access to γ-Butenolactone Derivatives Containing a Protected Amino Group, 1048

#### Cadambinic acid

Two New Indole Alkaloids from the Bark of Anthocephalus chinensis, 1470

### Cadogan reaction

Synthesis of Benzimidazoles by Phosphine-Mediated Reductive Cyclisation of ortho-Nitro-anilides, 977

### Calix[4]arene

Synthesis of Flavin-Calix[4] arene Conjugate Derivatives, 481

#### Colivflovir

Synthesis of Flavin-Calix[4] arene Conjugate Derivatives, 481

### Camchaya loloana

Three New Eudesmanolactones (= Eudesmanolides) from Camchaya loloana, 105

#### Caragana conferta

Caragisides A-C, New Isoflavone Glucosides from Caragana conferta with Inhibition of Platelet Aggregation, 438

#### Caragisides A-C

Caragisides A-C, New Isoflavone Glucosides from *Caragana conferta* with Inhibition of Platelet Aggregation, 438

#### Carbenes

Copper-Catalyzed Bis(methoxycarbonyl)carbene Reactions of α,β-Unsaturated Carboxamides, 1053 Novel Benzyl- or 4-Cyanobenzyl-Substituted N-Heterocyclic (Bromo)(carbene)silver(I) and (Carbene)-(chloro)gold(I) Complexes: Synthesis and Preliminary Cytotoxicity Studies, 1551

#### Carbenium ion

Synthesis of 2-Aryl-2,3-dihydro-3-sulfanyl-1*H*-isoindol-1-ones by *Pummerer*-Type Cyclization of *N*-Aryl-2-(sulfinylmethyl)benzamides, 2002

#### Carbenoids

Synthesis of the Naphthalenone, Dihydroquinoline, and Dihydrofuran Derivatives, 1115

### Carbon disulfide

Triethylamine-Catalyzed Efficient Synthesis of Oxathiolanes Containing a Highly Polarized Carbon-Carbon Double Bond from Reaction of Malononitrile, Carbon Disulfide (CS<sub>2</sub>), and Oxiranes, 639

A Facile Synthesis of 2-Imino-4-methylene-1,3-dithiolanes, 831

A Novel, One-Pot Four-Component Route to 2'-Thioxo-2',3'-dihydrospiro[indole-3,6'-[1,3]thiazin]-2-one Derivatives, 1315

## Carboxamides, $\alpha$ , $\beta$ -unsaturated

Copper-Catalyzed Bis(methoxycarbonyl)carbene Reactions of  $\alpha.\beta$ -Unsaturated Carboxamides, 1053

### Carboxylic acids

The Reaction of (N-Isocyanimino)triphenylphosphorane with Biacetyl in the Presence of Aromatic Carboxylic Acids: Efficient One-Pot Three-Component Reaction for the Synthesis of 3-(5-Aryl-1,3,4-oxadiazol-2-yl)-3-hydroxybutan-2-one Derivatives, 282

### (+)-Car-3-ene

An Efficient Synthesis of Optically Active *trans*-(3*R*,4*R*)-3-Acetoxy-4-aryl-1-(chrysen-6-yl)azetidin-2-ones Using (+)-Car-3-ene as a Chiral Auxiliary, 2188

# (-)-(R)-Carvone

On the Reactivity of (-)-(R)-Carvone and (-)-4a $\alpha$ ,7 $\alpha$ ,7a $\beta$ -Nepetalactone: Synthesis of New Heterocycles, 433

### Catalysis

Synthesis of Diheteroarylamine Ligands by Palladium-Catalyzed Mono- and Diamination of Dichloroheteroarenes with Heteroarenamines, 46

Bismuth(III) Chloride-Catalyzed Highly Efficient Transesterification of  $\beta$ -Keto Esters, 119

New Approach for the Construction of the Coumarin Frame and Application in the Total Synthesis of Natural Products. 185 An Efficient Synthesis of [(Tosylamino)alkyl]naphthalenols by Nucleophilic Addition of Naphthalen-2-ol with N-Tosyl Imines Using Boron Trifluoride Etherate as Catalyst, 289

N-Bromosuccinimide (NBS): A Novel and Efficient Catalyst for the Synthesis of 14-Aryl-14H-dibenzo[a,j]-xanthenes under Solvent-Free Conditions, 429

Mechanism of (Salen)manganese(III)-Catalyzed Oxidation of Aryl Phenyl Sulfides with Sodium Hypochlorite, 453

Reactions of Verbenol Epoxide with Aromatic Aldehydes Containing Hydroxy or Methoxy Groups in the Presence of Montmorillonite Clay, 502

Silica Nanoparticles as a Highly Efficient Catalyst for the One-Pot Synthesis of 2-Hydroxyacetamide Derivatives from Isocyanides and Electron-Poor Aromatic Aldehydes, 611

Organocatalyzed Michael Addition of Aldehydes to Nitro Alkenes – Generally Accepted Mechanism Revisited and Revised, 719

Molybdenum- and Tungsten-Based Coordination Polymers as Catalysts for an Efficient and Rapid Synthesis of Hexahydro-5-oxoquinoline-3-carboxylates and 1,4-Dihydropyridine-3,5-dicarboxylates, 885

A Novel Briggs-Rauscher Oscillation with a Macrocyclic Nickel(II) Complex as Catalyst and Pentane-2,4-dione as the Substrate, 903

Palladium Nanoparticles on Graphite Oxide as Catalyst for Suzuki-Miyaura, Mizoroki-Heck, and Sonogashira Reactions, 966

Indium(III) Chloride-Catalyzed Conversion of {[(Benzyloxy)carbonyl]amino}-Substituted Sulfones with 2-[(Trimethylsilyl)oxy]furan: A Facile Access to γ-Butenolactone Derivatives Containing a Protected Amino Group, 1048

Copper-Catalyzed Bis(methoxycarbonyl)carbene Reactions of  $\alpha.\beta$ -Unsaturated Carboxamides, 1053

Synthesis of 9,9-Disubstituted 9*H*-Pyrrolo[1,2-*a*]indoles by Hydriodic Acid-Catalyzed Cyclization of 1-[2-(1-Aryl(or methyl)ethenyl)]-1*H*-pyrroles, 1277

A Novel Synthesis of Isoflavones via Copper(I)-Catalyzed Intramolecular Cyclization Reaction, 1304

Allylation of N-Benzoylhydrazones (= N-Alkylidene-Substituted Benzohydrazides) by Treatment with Allyl Bromide in the Presence of Zinc in Aqueous Ammonium Chloride Solution, 1477

Highly Enantioselective Synthesis of Orthogonally Protected (2S)-2,3-Diaminopropanoates through Catalytic Phase-Transfer Aza-Henry Reaction, 1543

Stepwise Mechanism of Hydroxide Ion Catalyzed Cyclization of Uridine 3'-Thiophosphates, 1563

CuBr/FeCl<sub>3</sub> Catalysis: a Novel and Efficient Method for the Preparation of New Aryl (Iminomethyl)propargyl Ether Derivatives via C-H Activation of Aryl Propargyl Ethers, 1692

Tandem Palladium/Charcoal-Copper(I) Iodide (Pd/C-CuI) Catalyzed *Sonogashira* Coupling and Intra-molecular Cyclization from 2-Bromonicotinic Acid (=2-Bromopyridine-3-carboxylic Acid) and Ethynylarenes to 4-Azaphthalides (=Furo[3,4-b]pyridin-5(7H)-ones) and 5-Azaisocoumarins (=5H-Pyrano[4,3-b]pyridin-5-ones), 1792

Reaction of Primary Alkylamines, Heterocumulenes, and Isatoic Anhydride, Catalyzed by Magnetic Fe<sub>3</sub>O<sub>4</sub> Nanoparticles in H<sub>2</sub>O, 1825

Preparation of Silica Nanoparticles from Organic Laboratory Waste of Silica Gel *HF*<sub>254</sub> and Their Use as a Highly Efficient Catalyst for the One-Pot Synthesis of 2,3-Dihydro-1*H*-isoindolone Derivatives, 1831

Boric Acid-Catalyzed Direct Condensation of Carboxylic Acids with Benzene-1,2-diamine into Benzimidazoles. 1860

Facile Knoevenagel and Domino Knoevenagel/Michael Reactions Using Gel-Entrapped Base Catalysts, 1943 Efficient Synthesis of Tetrahydropyrimidines and Pyrrolidines by a Multicomponent Reaction of Dialkyl Acetylenedicarboxylates (= Dialkyl But-2-ynedioates), Amines, and Formaldehyde in the Presence of Iodine as a Catalyst. 2087

Diversity-Oriented Synthesis of Novel 2'-Aminospiro[11*H*-indeno[1,2-*b*]quinoxaline-11,4'-[4*H*]pyran] Derivatives *via* a One-Pot Four-Component Reaction, 2289

### Cations

Ions Can Move a Proton-Coupled Electron-Transfer Reaction into Tunneling Regime, 1718

### Celtis australis

Chemical Constituents from Fruits and Stem Bark of Celtis australis L., 464

### Ceramides

Citropremide and Citropridone: A New Ceramide and a New Acridone Alkaloid from the Stem Bark of Citropsis gabunensis, 1035

#### Cerium(IV) ammonium nitrate

Studies on the Radical Cyclization of 3-Oxopropanenitriles and Alkenes with Cerium(IV) Ammonium Nitrate in Ether Solvents. 1335

### Charge-transfer photochemistry

On the Ligand-to-Metal Charge-Transfer Photochemistry of the Copper(II) Complexes of Quercetin and Rutin, 293

#### Chemistry in Switzerland

The Woodward Research Institute, Robert Burns Woodward (1917–1979) and Chemistry behind the Glass Door, 923

### Chiloscyphus polyanthus

Terpenoids from the Chinese Liverwort Chiloscyphus polyanthus, 534

#### Chloroacetone

One-Pot, Four-Component Synthesis of Fully Substituted 1,3,4-Oxadiazole Derivatives from (Isocyanoimino)triphenylphosphorane, a Primary Amine, an Aromatic Carboxylic Acid, and Chloroacetone, 1024

### Chromane-2,4-diones, (3E)-3-[amino(aryl)methylidene]-

Efficient Synthesis of (3*E*)-3-[Amino(aryl)methylidene]chromane-2,4-diones (=(3*E*)-3-[Amino(aryl)methylene]-2*H*-1-benzopyran-2,4(3*H*)-diones) *via* a Three-Component Reaction, 1440

### 2H-Chromene-3-carboxylates, ethyl 2-(chloromethyl)-2-hydroxy-

Facile Synthesis of Substituted Ethyl 2-(Chloromethyl)-2-hydroxy-2H-1-benzopyran-3-carboxylates, 248

### Chromenes, octahydro-4,6-(epoxymethano)-2H-

Reactions of Verbenol Epoxide with Aromatic Aldehydes Containing Hydroxy or Methoxy Groups in the Presence of Montmorillonite Clay, 502

### Chromenone glucosides

Chromenone Glucosides Acylated with Monoterpene Acids from the Leaves of *Eucalyptus camaldulensis* var. obtusa. 238

#### 4H-Chromen-4-ones

Diels-Alder Reaction of 2-Ethenyl-1,3,3-trimethylcyclohexene with 4H-Chromen-4-ones: A Convergent Approach to ABCD Tetracyclic Core of Marine Diterpenoids Related to Puupehenone and Kampanols, 261

### Chugaev reaction

First Synthesis of a C-Homosteroid from Pregn-4-ene-3,11,20-trione, 98

#### Cicerosides A and B

Cycloartane Glycosides from Three Species of Astragalus (Fabaceae), 230

#### Cimicifuga foetida

Three New Cycloartane (=9,19-Cyclolanostane) Glycosides from Cimicifuga foetida, 632

### Cinchona alkaloid

Highly Enantioselective Synthesis of Orthogonally Protected (2S)-2,3-Diaminopropanoates through Catalytic Phase-Transfer Aza-Henry Reaction, 1543

### Citrinin dimer

Dicitrinol, a Citrinin Dimer, Produced by Penicillium janthinellum, 835

### Citropremide

Citropremide and Citropridone: A New Ceramide and a New Acridone Alkaloid from the Stem Bark of Citropsis gabunensis, 1035

# Citropridone

Citropremide and Citropridone: A New Ceramide and a New Acridone Alkaloid from the Stem Bark of Citropsis gabunensis, 1035

### Citropsis gabunensis

Citropremide and Citropridone: A New Ceramide and a New Acridone Alkaloid from the Stem Bark of Citropsis gabunensis, 1035

### Cladosporium uredinicola

Antimicrobial Depsides Produced by *Cladosporium uredinicola*, an Endophytic Fungus Isolated from *Psidium guajava* Fruits, 1077

### Clay

Reactions of Verbenol Epoxide with Aromatic Aldehydes Containing Hydroxy or Methoxy Groups in the Presence of Montmorillonite Clay, 502

#### (-)-Cleistenolide

Total Synthesis of (-)-Cleistenolide, 2215

### Cleistochlamys kirkii

Total Synthesis of (-)-Cleistenolide, 2215

#### Clerodane diterpenoids

Splendidins A-C, Three New Clerodane Diterpenoids from Salvia splendens, 417

#### Clerodanes

Two New 3,4-Seco-ent-kaurenes and Other Constituents from the Costa Rican Endemic Species Croton megistocarpus, 1888

### Clerodendrum kaichianum

Two New Abietane Diterpenoids from the Stems of Clerodendrum kaichianum P. S. Hsu, 539

#### 'Click chemistry'

'Click Synthesis' of 1*H*-1,2,3-Triazolyl-Based Oxiconazole (=(1*Z*)-1-(2,4-Dichlorophenyl)-2-(1*H*-imidazol-1-yl)ethanone *O*-[(2,4-Dichlorophenyl)methyl]oxime) Analogs, 2194

#### Coenzyme O10

Inclusion Complexes of Coenzyme Q10 with Polyamine-Modified  $\beta$ -Cyclodextrins: Characterization, Solubilization, and Inclusion Mode, 1608

### Conrauidienol

Isoprenoids and Flavonoids with Antimicrobial Activity from Ficus conraui WARBURG (Moraceae), 2231

### Conrauiflavonol

Isoprenoids and Flavonoids with Antimicrobial Activity from Ficus conraui WARBURG (Moraceae), 2231

#### Copper catalysis

A Novel Synthesis of Isoflavones via Copper(I)-Catalyzed Intramolecular Cyclization Reaction, 1304

### Copper complexes

On the Ligand-to-Metal Charge-Transfer Photochemistry of the Copper(II) Complexes of Quercetin and Rutin, 293

Copper-Catalyzed Bis(methoxycarbonyl)carbene Reactions of  $\alpha\beta$ -Unsaturated Carboxamides, 1053

# Copper toxicity

A New Phenolic Diglycoside Produced in Response to Copper Toxicity and a New Flavan Dimer from the Leaves of *Viburnum ichangense* (Hemsl.) Rehd., 1677

#### Corbicula fluminea

Polyoxygenated Sterols from Freshwater Clam, 892

#### Coumarins

New Approach for the Construction of the Coumarin Frame and Application in the Total Synthesis of Natural Products, 185

Photocycloaddition of 4-(Alk-1-ynyl)-Substituted Coumarins and Thiocoumarins to 2,3-Dimethylbuta-1,3-diene, 1030

Efficient Synthesis of (3*E*)-3-[Amino(aryl)methylidene]chromane-2,4-diones (=(3*E*)-3-[Amino(aryl)methylene]-2*H*-1-benzopyran-2,4(3*H*)-diones) *via* a Three-Component Reaction, 1440

### Coupling reactions

CuBr/FeCl<sub>3</sub> Catalysis: a Novel and Efficient Method for the Preparation of New Aryl (Iminomethyl)propargyl Ether Derivatives via C-H Activation of Aryl Propargyl Ethers, 1692

## Craniella australiensis

Streptomycindole, an Indole Alkaloid from a Marine Streptomyces sp. DA22 Associated with South China Sea Sponge Craniella australiensis, 1838

### Cross-linking

Photo-Cross-Linking of Polymethacrylates with Stilbene Chromophores in the Side Chains, 2111

### Cross-metathesis

Efficient Synthesis of a Styryl Analogue of (2S,3R,4E)- $N^2$ -Octadecanoyl-4-tetradecasphingenine via Cross-Metathesis Reaction, 650

### Croton megistocarpus

Two New 3,4-Seco-ent-kaurenes and Other Constituents from the Costa Rican Endemic Species Croton megistocarpus, 1888

### Cryptoporic acids N and O

Two New Cryptoporic Acid Derivatives from the Fruiting Bodies of Cryptoporus sinensis, 2020

#### Cryptoporus sinensis

Two New Cryptoporic Acid Derivatives from the Fruiting Bodies of Cryptoporus sinensis, 2020

### (-)-γ-Cuparenol

New and Bioactive Sesquiterpenes from Schisandra sphenanthera, 2295

#### Cyanides

An Unexpected Result of the Reaction of Benzothioamide Derivatives with 2-Aryl-2-bromoacetonitriles, 2039

## Cyanoauriculosides

Three New Steroidal Glycosides from the Roots of Cynanchum auriculatum, 1296

#### Cyanoglucosides

Novel Cyanoglucosides from the Leaves of Hydrangea macrophylla, 847

### Cyclization reactions

Reactions with 4-Hydroxy-2-methylbutananilides: Unexpected Formation of a Cyclopropanecarboxamide, 28 New Approach for the Construction of the Coumarin Frame and Application in the Total Synthesis of Natural Products, 185

Synthesis of Benzimidazoles by Phosphine-Mediated Reductive Cyclisation of ortho-Nitro-anilides, 977

Synthesis of 9,9-Disubstituted 9*H*-Pyrrolo[1,2-*a*]indoles by Hydriodic Acid-Catalyzed Cyclization of 1-[2-(1-Aryl(or methyl)ethenyl)]-1*H*-pyrroles, 1277

A Novel Synthesis of Isoflavones via Copper(I)-Catalyzed Intramolecular Cyclization Reaction, 1304

Studies on the Radical Cyclization of 3-Oxopropanenitriles and Alkenes with Cerium(IV) Ammonium Nitrate in Ether Solvents, 1335

Stepwise Mechanism of Hydroxide Ion Catalyzed Cyclization of Uridine 3'-Thiophosphates, 1563

A Simple Synthesis of 5-(2-Aminophenyl)-1H-pyrazoles, 1703

Tandem Palladium/Charcoal-Copper(I) Iodide (Pd/C-CuI) Catalyzed *Sonogashira* Coupling and Intra-molecular Cyclization from 2-Bromonicotinic Acid (=2-Bromopyridine-3-carboxylic Acid) and Ethynylarenes to 4-Azaphthalides (=Furo[3,4-b]pyridin-5(7H)-ones) and 5-Azaisocoumarins (=5H-Pyrano[4,3-b]pyridin-5-ones), 1792

Rapid and Facile Access to Indeno[1,2-d]imidazoles via a Tandem Addition-Cyclization Reaction, 1802

Radical Cyclization of Fluorinated 1,3-Dicarbonyl Compounds with Dienes Using Manganese(III) Acetate and Synthesis of Fluoroacylated 4,5-Dihydrofurans, 2027

### Cycloadditions

Efficient Synthesis of [1,3]Oxazino[3,2-f]phenanthridine Derivatives by a Novel 1,4-Dipolar Cycloaddition Involving a Phenanthridine–Dimethyl Acetylenedicarboxylate Zwitterion and Aromatic Aldehydes, 169 On the Reactivity of (-)-(R)-Carvone and (-)-4aα,7α,7aβ-Nepetalactone: Synthesis of New Heterocycles, 433

Interconversion of cis- and trans-Fused Oxabicyclo [5.2.0] nonan-2-ones, 1994

The Synthesis of Epiboxidine and Related Analogues as Potential Pharmacological Agents, 2054

Photo-Cross-Linking of Polymethacrylates with Stilbene Chromophores in the Side Chains, 2111

An Efficient Synthesis of Optically Active *trans*-(3*R*,4*R*)-3-Acetoxy-4-aryl-1-(chrysen-6-yl)azetidin-2-ones Using (+)-Car-3-ene as a Chiral Auxiliary, 2188

'Click Synthesis' of 1*H*-1,2,3-Triazolyl-Based Oxiconazole (=(1*Z*)-1-(2,4-Dichlorophenyl)-2-(1*H*-imidazol-1-yl)ethanone *O*-[(2,4-Dichlorophenyl)methyl]oxime) Analogs, 2194

### Cycloartane glycosides

Cycloartane Glycosides from Three Species of Astragalus (Fabaceae), 230

Three New Cycloartane (=9,19-Cyclolanostane) Glycosides from Cimicifuga foetida, 632

## Cycloartanes

Three New Peroxy Triterpene Lactones from Pseudolarix kaempferi, 1697

### Cyclobutane, 1-amino-2-nitro-

Organocatalyzed *Michael* Addition of Aldehydes to Nitro Alkenes – Generally Accepted Mechanism Revisited and Revised, 719

## Cyclocondensation

One-Pot Synthesis of Pyrimidines via Cyclocondensation of  $\beta$ -Bromovinyl Aldehydes with Amidine Hydrochlorides, 487

Boric Acid-Catalyzed Direct Condensation of Carboxylic Acids with Benzene-1,2-diamine into Benzimidazoles. 1860

## Cyclodextrins

Inclusion Complexes of Coenzyme Q10 with Polyamine-Modified β-Cyclodextrins: Characterization, Solubilization, and Inclusion Mode. 1608

# ${\bf Cyclohepta[\it b] pyran-3,4-dicarboxy lates}$

Synthesis of Dialkyl 2-(Alkylamino)-4,9-dihydro-9-oxocyclohepta[b]pyran-3,4-dicarboxylates, 371

### Cycloheptatrienes, 1- and 2-phenyl-

Manganese(III) Acetate Catalyzed Oxidative Radical Additions of α-Dicarbonyl Compounds to 1- and 2-Phenylcyclohepta-1,3,5-triene, 1431

### Cyclohexanone, 2-bromo-3-methyl-

Synthesis of 4,6-Dimethyldibenzothiophene and 1,2,3,4-Tetrahydro-4,6-dimethyldibenzothiophene via Tilak Annulation, 1754

### Cyclohex-2-en-1-one, 2-bromo-3-methyl-

Synthesis of 4,6-Dimethyldibenzothiophene and 1,2,3,4-Tetrahydro-4,6-dimethyldibenzothiophene via Tilak Annulation, 1754

### 9,19-Cyclolanostane

Three New Cycloartane (=9,19-Cyclolanostane) Glycosides from Cimicifuga foetida, 632

#### Cyclopentene, 3,4,4-triphenyl-

The Rearrangement of 2,2-Diphenyl-1-[(E)-2-phenylethenyl]cyclopropane to 3,4,4-Triphenylcyclopent-1-ene: a DFT Analysis, 1389

### Cyclopentenes

1-[(E)-2-Arylethenyl]-2,2-diphenylcyclopropanes: Kinetics and Mechanism of Rearrangement to Cyclopentenes, 1359

### Cyclo-β-peptides

Stereoselective Preparation of 3-Amino-2-fluoro Carboxylic Acid Derivatives, and Their Incorporation in Tetrahydropyrimidin-4(1H)-ones, and in Open-Chain and Cyclic  $\beta$ -Peptides, 1908

### Cyclopropane, 2,2-diphenyl-1-[(E)-2-phenylethenyl]-

The Rearrangement of 2,2-Diphenyl-1-[(E)-2-phenylethenyl]cyclopropane to 3,4,4-Triphenylcyclopent-1-ene: a DFT Analysis, 1389

### Cyclopropanecarboxamide

Reactions with 4-Hydroxy-2-methylbutananilides: Unexpected Formation of a Cyclopropanecarboxamide, 28

### Cyclopropanes, 1-[(E)-2-arylethenyl]-2,2-diphenyl-

1-[(E)-2-Arylethenyl]-2,2-diphenylcyclopropanes: Kinetics and Mechanism of Rearrangement to Cyclopentenes, 1359

### Cynanchum auriculatum

Three New Steroidal Glycosides from the Roots of Cynanchum auriculatum, 1296

### Cynanchum otophyllum

Polyhydroxypregnane Glycosides from the Roots of Cynanchum otophyllum, 2272

### Cynotophyllosides A-F

Polyhydroxypregnane Glycosides from the Roots of Cynanchum otophyllum, 2272

# Cytidine

Oligonucleotide Analogues with Integrated Bases and Backbone. Part 27. Synthesis and Association of Thiomethylene-Linked Cytidine-Derived Dinucleosides and Tetranucleosides, 545

# Cytochalasins

New Cytochalasins from the Marine-Derived Fungus Xylaria sp. SCSIO 156, 1671

## Cytotoxic activity

Three New Eudesmanolactones (= Eudesmanolides) from Camchaya loloana, 105

Three New Triterpenes from Xylarialean sp. A45, an Endophytic Fungus from Annona squamosa L., 301

Nine New Norlabdane Diterpenoids from the Leaves of Austroeupatorium inulifolium, 313

Two New Constituents from Torricellia tiliifolia Stem Barks, 327

Polyynes from Toona ciliata var. ciliata and Related Cytotoxic Activity, 376

Two New Cytotoxic Naphthoquinones from Didymocarpus hedyotideus, 404

Kadsufolins A-D and Related Cytotoxic Lignans from Kadsura oblongifolia, 519

Two New Abietane Diterpenoids from the Stems of Clerodendrum kaichianum P. S. Hsu, 539

Ophiobolin Sesterterpenoids and Pyrrolidine Alkaloids from the Sponge-Derived Fungus Aspergillus ustus, 623

A New Tetracyclic Diterpene from Jatropha curcas, 842

Polyoxygenated Sterols from Freshwater Clam, 892

Three New Medicagenic Acid Saponins from Polygala micrantha Guill. & Perr., 914

Two New Alkaloids from Daphniphyllum angustifolium HUTCH., 1019

Two New Cyclic Pentapeptides from the Marine-Derived Fungus Aspergillus versicolor, 1065

Three New Diterpenoids from Isodon nervosus, 1320

Three New 3,6-Dioxygenated Diketopiperazines from the Basidiomycete Lepista sordida, 1426

Two New 23-Membered Macrolactones from a Terrestrial Bacterium, Streptomyces sp. IMBJ01, 1448

Two New Indole Alkaloids from the Bark of Anthocephalus chinensis, 1470

Anthracene and Anthraquinone Derivatives from the Stem Bark of Juglans mandshurica MAXIM., 1488

Novel Benzyl- or 4-Cyanobenzyl-Substituted N-Heterocyclic (Bromo)(carbene)silver(I) and (Carbene)-(chloro)gold(I) Complexes: Synthesis and Preliminary Cytotoxicity Studies, 1551

Two New Cytotoxic Alkaloids from Mappianthus iodoides HAND.-MAZZ., 1594

Secondary Metabolites from the Fungus Monascus purpureus and Evaluation of Their Cytotoxic Activity, 1638

New Cytochalasins from the Marine-Derived Fungus Xylaria sp. SCSIO 156, 1671

Cytotoxic Naphtho-γ-pyrones from the Mangrove Endophytic Fungus Aspergillus tubingensis (GX1-5E), 1732

A New Anthraquinone and Two New Tetrahydroanthraquinones from the Roots of *Prismatomeris connata*, 1843

Two New Cryptoporic Acid Derivatives from the Fruiting Bodies of Cryptoporus sinensis, 2020

Acylated Triterpene Saponins from Atroxima liberica STAPF, 2066

Two New Prenylated Xanthones from the Pericarp of Garcinia mangostana (Mangosteen), 2092

#### Dammarane saponins

New Dammarane-Type Saponins from the Rhizomes of Panax japonicus, 2010

### Dammarane triterpenoids

Dammarane Triterpenes from Gardenia aubryi Vieill., 656

#### Daphangustifolines A and B

Two New Alkaloids from Daphniphyllum angustifolium HUTCH., 1019

#### Daphlongeranines C-E

Further Alkaloids from the Fruits of Daphniphyllum longeracemosum, 397

### Daphne aurantiaca

Five New Biflavonoids from Daphne aurantiaca, 1239

### Daphniphyllum angustifolium

Two New Alkaloids from  ${\it Daphniphyllum\ angustifolium\ Hutch.}, 1019$ 

# Daphniphyllum longeracemosum

Further Alkaloids from the Fruits of Daphniphyllum longeracemosum, 397

### Dealkoxycarbonylation

A Novel Synthesis of  $\gamma,\delta$ -Unsaturated Aldehydes from  $\alpha$ -Formyl- $\gamma$ -lactones, 1216

### γ-Decanolactone

Stereo-Inversion in the (4R)- $\gamma$ -Decanolactone Synthesis by *Saccharomyces cerevisiae*: (2E,4S)-4-Hydroxy-dec-2-enoic Acid Acts as a Key Intermediate, 2125

# Dec-2-enoic acid, 4-hydroxy-

Stereo-Inversion in the (4R)- $\gamma$ -Decanolactone Synthesis by *Saccharomyces cerevisiae*: (2E,4S)-4-Hydroxy-dec-2-enoic Acid Acts as a Key Intermediate, 2125

# Dehydration

One-Pot Synthesis of 2-Substituted 4-Aryl-4,5-dihydro-3,1-benzoxazepines from 2-(2-Aminophenyl)-1-arylethanols via Dehydration of the Corresponding Amides, 987

### Dehydrofluorinations

On Novel Fluorine Reagents in Preparative Organic Chemistry, 947

### Delphinium tatsienense

Diterpenoid Alkaloids from Delphinium tatsienense, 853

### Delphinium yunnanense

Diterpenoid Alkaloids from Delphinium yunnanense, 254

#### Density-functional theory (DFT)

The Rearrangement of 2,2-Diphenyl-1-[(E)-2-phenylethenyl]cyclopropane to 3,4,4-Triphenylcyclopent-1-ene: a DFT Analysis, 1389

Synthesis and Mechanistic Study of Steroidal Oxime Ethers, 2256

#### Depsides

Antimicrobial Depsides Produced by Cladosporium uredinicola, an Endophytic Fungus Isolated from Psidium guajava Fruits, 1077

#### Diamination

Synthesis of Diheteroarylamine Ligands by Palladium-Catalyzed Mono- and Diamination of Dichloroheteroarenes with Heteroarenamines, 46

### α,β-Diamino acids

Highly Enantioselective Synthesis of Orthogonally Protected (2S)-2,3-Diaminopropanoates through Catalytic Phase-Transfer Aza-Henry Reaction, 1543

### '1,4-Diazabutadienes'

Synthesis of 1,4-Diazabutadienes (= N,N'-Ethane-1,2-diylidenebis[amines]) by Grinding, 159

#### 1.3-Diazaheterocycles

Synthesis of 2-Oxopyridine-Fused 1,3-Diazaheterocyclic Compounds via a Three-Component Reaction, 1343

## Diazomalonate, dimethyl

Copper-Catalyzed Bis(methoxycarbonyl)carbene Reactions of  $\alpha$ , $\beta$ -Unsaturated Carboxamides, 1053

### Dibenzocyclooctadienes

Seven New Lignan Esters from Kadsura philippinensis, 148

### Dibenzocyclooctanes

Kadsufolins A - D and Related Cytotoxic Lignans from Kadsura oblongifolia, 519

### Dibenzothiophenes

Synthesis of 4,6-Dimethyldibenzothiophene and 1,2,3,4-Tetrahydro-4,6-dimethyldibenzothiophene via Tilak Annulation, 1754

### 14H-Dibenzo[a,j]xanthenes, 14-aryl-

N-Bromosuccinimide (NBS): A Novel and Efficient Catalyst for the Synthesis of 14-Aryl-14H-dibenzo[a,j]-xanthenes under Solvent-Free Conditions, 429

### α-Dicarbonyl compounds

Manganese(III) Acetate Catalyzed Oxidative Radical Additions of  $\alpha$ -Dicarbonyl Compounds to 1- and 2-Phenylcyclohepta-1,3,5-triene, 1431

#### **Dichomitol**

Novel Sesquiterpenes from the Mycelial Cultures of Dichomitus squalens, 868

### Dichomitus squalens

Novel Sesquiterpenes from the Mycelial Cultures of Dichomitus squalens, 868

### Dicitrionol

Dicitrinol, a Citrinin Dimer, Produced by Penicillium janthinellum, 835

# Didymocarpus hedyotideus

Two New Cytotoxic Naphthoquinones from Didymocarpus hedyotideus, 404

## Diels-Alder reactions

Diels-Alder Reaction of 2-Ethenyl-1,3,3-trimethylcyclohexene with 4H-Chromen-4-ones: A Convergent Approach to ABCD Tetracyclic Core of Marine Diterpenoids Related to Puupehenone and Kampanols, 261

Convergent Domino Knoevenagel Hetero-Diels-Alder and Domino Oxidation Hetero-Diels-Alder Reactions Encountered in an Unexpected Formation of Novel 5-Aryl-1H-pyrano[2,3-d]pyrimidine-2,4(3H,5H)-diones and 5-Aryl-2,3-dihydro-2-thioxo-1H-pyrano[2,3-d]pyrimidin-4(5H)-ones, 859

# Dienes

Radical Cyclization of Fluorinated 1,3-Dicarbonyl Compounds with Dienes Using Manganese(III) Acetate and Synthesis of Fluoroacylated 4,5-Dihydrofurans, 2027

### Diffusion

Comparison of Dinitrogen, Methane, Carbon Monoxide, and Carbon Dioxide Mass-Transport Dynamics in Carbon and Zeolite Molecular Sieves, 206

#### Diheteroarvlamine ligands

Synthesis of Diheteroarylamine Ligands by Palladium-Catalyzed Mono- and Diamination of Dichloroheteroarenes with Heteroarenamines, 46

### Dihydrodibenzodioxinone

Two Unusual Phenolic Substances and One New Xanthone from Hypericum sampsonii, 686

### Dihydrofuran derivatives

Copper-Catalyzed Bis(methoxycarbonyl)carbene Reactions of  $\alpha.\beta$ -Unsaturated Carboxamides, 1053

Manganese(III) Acetate Catalyzed Oxidative Radical Additions of α-Dicarbonyl Compounds to 1- and 2-Phenylcyclohepta-1,3,5-triene, 1431

### Dihydroxylation

Total Synthesis of Leiocarpin C and (+)-Goniodiol *via* an Olefin Cross-Metathesis Protocol, 1102 Asymmetric Total Synthesis of Stagonolide G, 1226

#### α-Diketones

Synthesis of 1,4-Diazabutadienes (= N,N'-Ethane-1,2-diylidenebis[amines]) by Grinding, 159

#### Diketopiperazines

Three New 3,6-Dioxygenated Diketopiperazines from the Basidiomycete Lepista sordida, 1426

### Dimethyl acetylenedicarboxylate (DMAD)

Efficient Synthesis of [1,3]Oxazino[3,2-f]phenanthridine Derivatives by a Novel 1,4-Dipolar Cycloaddition Involving a Phenanthridine–Dimethyl Acetylenedicarboxylate Zwitterion and Aromatic Aldehydes, 169

### Dimethylsulfido complexes

Novel Benzyl- or 4-Cyanobenzyl-Substituted N-Heterocyclic (Bromo)(carbene)silver(I) and (Carbene)-(chloro)gold(I) Complexes: Synthesis and Preliminary Cytotoxicity Studies, 1551

### Dimorphamides A-C

Dimorphamides A-C, New Polyphenolic Amides from Atriplex dimorphostagia, 528

#### 2,4-Dioxa-3-phospha-9-azadecalin 3-oxides, 3-fluoro-

Synthesis and Characterization of Enantiomerically Pure *cis*- and *trans*-3-Fluoro-2,4-dioxa-9-aza-3-phosphadecalin 3-Oxides as Acetylcholine Mimetics and Inhibitors of Acetylcholinesterase, 746

### (4R,5R)-1,3,2-Dioxaphospholane-4,5-dicarboxylic acid, 2-chloro-, diisopropyl ester

Asymmetric Mannich-Type Synthesis of N-Phosphinyl \alpha-Aminophosphonic Acid Monoesters, 1586

### 1,3-Dioxol-4-amines, N-alkyl-2,5-diaryl-

A Simple One-Pot Synthesis of N-Alkyl-2,5-diaryl-1,3-dioxol-4-amines, 1657

## Diphenyl sulfides, 4-substituted

Mechanism of (Salen)manganese(III)-Catalyzed Oxidation of Aryl Phenyl Sulfides with Sodium Hypochlorite, 453

### Diplopterygium rufopilosum

Diterpenoids from Diplopterygium rufopilosum, 1085

### Diterpene quinones

First Total Synthesis of Prionoid E, A Bioactive Rearranged Secoabietane Diterpene Quinone from Salvia prionitis. 1326

## Diterpenes

Terpenoids from the Chinese Liverwort Chiloscyphus polyanthus, 534

ent-Kaurane Diterpenes and Further Constituents from Wedelia trilobata, 817

A New Tetracyclic Diterpene from Jatropha curcas, 842

# Diterpenoid alkaloids

Two New  $C_{20}$ -Diterpenoid Alkaloids from Aconitum carmichaelii, 122

Diterpenoid Alkaloids from Delphinium yunnanense, 254

Hemsleyaconitines F and G, Two Novel C<sub>19</sub>-Diterpenoid Alkaloids Possessing a Unique Skeleton from *Aconitum hemsleyanum*, 268

Diterpenoid Alkaloids from Delphinium tatsienense, 853

### Diterpenoids

Asterolaurins G-J, New Xenicane Diterpenoids from the Taiwanese Soft Coral Asterospicularia laurae, 273

Nine New Norlabdane Diterpenoids from the Leaves of Austroeupatorium inulifolium, 313

Splendidins A-C, Three New Clerodane Diterpenoids from Salvia splendens, 417

Two New Abietane Diterpenoids from the Stems of Clerodendrum kaichianum P. S. Hsu, 539

Neoclerodane Diterpenoids from the Aerial Part of Scutellaria barbata, 643

Diterpenoids from Diplopterygium rufopilosum, 1085

Highly Acylated 3,4-Secograyanane Diterpenoids from the Fruits of Pieris formosa, 1283

Three New Diterpenoids from Isodon nervosus, 1320

Two ent-Kaurane Diterpenoids from Rubus corchorifolius L. f., 1820

### 1,3-Dithiolanes

A Facile Synthesis of 2-Imino-4-methylene-1,3-dithiolanes, 831

### **Diversity-oriented synthesis**

Diversity-Oriented Synthesis of Novel 2'-Aminospiro[11*H*-indeno[1,2-*b*]quinoxaline-11,4'-[4*H*]pyran] Derivatives *via* a One-Pot Four-Component Reaction, 2289

#### **Domino reactions**

Convergent Domino Knoevenagel Hetero-Diels-Alder and Domino Oxidation Hetero-Diels-Alder Reactions Encountered in an Unexpected Formation of Novel 5-Aryl-1H-pyrano[2,3-d]pyrimidine-2,4(3H,5H)-diones and 5-Aryl-2,3-dihydro-2-thioxo-1H-pyrano[2,3-d]pyrimidin-4(5H)-ones, 859

#### Double bond

Triethylamine-Catalyzed Efficient Synthesis of Oxathiolanes Containing a Highly Polarized Carbon-Carbon Double Bond from Reaction of Malononitrile, Carbon Disulfide (CS<sub>2</sub>), and Oxiranes, 639

#### Drimanes

Two New Cryptoporic Acid Derivatives from the Fruiting Bodies of Cryptoporus sinensis, 2020

# Dunnianaolactones A-C

Three New E-Secoursane Triterpenoid Saponins from the Leaves of Ilex dunniana, 2207

#### α-Dunnione, 6-hydroxy-

Two New Cytotoxic Naphthoquinones from Didymocarpus hedyotideus, 404

#### **Duplexes**

Oligonucleotide Analogues with Integrated Bases and Backbone. Part 27. Synthesis and Association of Thiomethylene-Linked Cytidine-Derived Dinucleosides and Tetranucleosides, 545

#### Eichhornia crassipes

New Phenylphenalene Derivatives from Water Hyacinth (Eichhornia crassipes), 61

#### ( $\pm$ )-Elaeocarpine N-oxide

Optical Resolution and Structure Determination of New Indolizidine Alkaloids from *Elaeocarpus sphaericus*, 347

### Elaeocarpus sphaericus

Optical Resolution and Structure Determination of New Indolizidine Alkaloids from *Elaeocarpus sphaericus*, 347

## **Electrochemical chlorination**

Electrochemical Chlorination of Physcion – An Approach to Naturally Occurring Chlorinated Secondary Metabolites of Lichens, 1406

### Electrochemistry

Novel Compounds with a Viologen Skeleton and N-Heterocycles on the Peripheries: Electrochemical and Spectroscopic Properties, 1091

Acetylenic Tetrathiafulvalene Scaffolds - Intramolecular Charge-Transfer Molecules, 1743

### 1,5-Electrocyclic reaction

Copper-Catalyzed Bis(methoxycarbonyl)carbene Reactions of  $\alpha.\beta$ -Unsaturated Carboxamides, 1053

## Eleganosides $\boldsymbol{A}$ and $\boldsymbol{B}$

Two New Megastigmane Glycosides and a New Iridoid Glycoside from *Gelsemium elegans*, 1130 γ.δ-Enal

A Novel Synthesis of  $\gamma$ , $\delta$ -Unsaturated Aldehydes from  $\alpha$ -Formyl- $\gamma$ -lactones, 1216

### Enamines

Organocatalyzed *Michael* Addition of Aldehydes to Nitro Alkenes – Generally Accepted Mechanism Revisited and Revised, 719

### Enaminones

Synthesis of the Naphthalenone, Dihydroquinoline, and Dihydrofuran Derivatives, 1115

A Simple Synthesis of 5-(2-Aminophenyl)-1H-pyrazoles, 1703

#### **Enantioselective synthesis**

Organocatalyzed Michael Addition of Aldehydes to Nitro Alkenes – Generally Accepted Mechanism Revisited and Revised, 719

An Efficient Synthesis of Optically Active *trans*-(3*R*,4*R*)-3-Acetoxy-4-aryl-1-(chrysen-6-yl)azetidin-2-ones Using (+)-Car-3-ene as a Chiral Auxiliary, 2188

### **Endiandric acid derivatives**

Beilschmiedic Acids F and G, Further Endiandric Acid Derivatives from *Beilschmiedia anacardioides*, 1071 **Endophyte** 

Dicitrinol, a Citrinin Dimer, Produced by Penicillium janthinellum, 835

#### **Endophytic fungi**

Constituents of the Endophytic Fungus Annulohypoxylon boveri var. microspora BCRC 34012, 1108

### Epiboxidine, N-(methoxycarbonyl)-

The Synthesis of Epiboxidine and Related Analogues as Potential Pharmacological Agents, 2054

### 4-Epipallensin

Phytochemical Investigation of Artemisia pallens, 73

## **Epoxide opening**

Asymmetric Total Synthesis of Stagonolide G, 1226

## **EPR Spectroscopy**

Spin Trapping of Radical Intermediates Generated by the Oxidation of Substituted 4-Methylphenols, 1260

## Eremophilane

Eremophilane-Type Sesquiterpenoids from the Fermentation Broth of Plant Endophytic Fungus *Pestalo-tiopsis photiniae* Isolated from the Chinese Podocarpaceae Plant *Podocarpus macrophyllus*, 1463

### Eremophilenolide sesquiterpenes

Eremophilenolide-Type Sesquiterpenes from Hertia intermedia, 163

### Eremophilenolides

New Eremophilenolides from Senecio dianthus, 474

### Ergostane glycosides

New Triterpenoid and Ergostane Glycosides from the Leaves of Hydrocotyle umbellata L., 1850

### Esters, $\beta$ -hydroxy $\alpha$ -sulfanyl

Synthesis of  $\beta$ -Hydroxy  $\alpha$ -Sulfanyl Esters by Using Nanocrystalline Magnesium Oxide, 1533

### Esters, $\beta$ -keto

Bismuth(III) Chloride-Catalyzed Highly Efficient Transesterification of  $\beta$ -Keto Esters, 119

### Ethanols, 2-(2-aminophenyl)-

One-Pot Synthesis of 2-Substituted 4-Aryl-4,5-dihydro-3,1-benzoxazepines from 2-(2-Aminophenyl)-1-arylethanols *via* Dehydration of the Corresponding Amides, 987

### Ethenes, tetraethynyl-

 $Acetylenic\ Tetrathia fulvalene\ Scaffolds-Intramolecular\ Charge-Transfer\ Molecules,\ 1743$ 

# Eucalyptus camaldulensis var. obtusa

Chromenone Glucosides Acylated with Monoterpene Acids from the Leaves of *Eucalyptus camaldulensis* var. obtusa, 238

### Eucamaldusides A-C

Chromenone Glucosides Acylated with Monoterpene Acids from the Leaves of *Eucalyptus camaldulensis* var. obtusa, 238

## Eudesmanes

Sesquiterpenoids from the Aerial Parts of Inula japonica, 1269

## Eudesmanolides

Phytochemical Investigation of Artemisia pallens, 73

Three New Eudesmanolactones (= Eudesmanolides) from Camchaya loloana, 105

### Euonymus fortunei

Three New Sesquiterpene Pyridine Alkaloids from Euonymus fortunei, 1139

# **Euphane triterpenes**

Euphane Triterpenes from the Bark of Broussonetia papyrifera, 2061

### Ferruginol glucoside

Two Glycosides and Other Constituents from Anemone tomentosa Roots, 711

#### Ficus conraui

Isoprenoids and Flavonoids with Antimicrobial Activity from Ficus conraui WARBURG (Moraceae), 2231

#### Flavone C-glucosides

Flavone 8-C-Glycosides from Haberlea rhodopensis FRIV. (Gesneriaceae), 38

#### Flavonoids

Two New Flavonoids from the Rhizomes of Abacopteris penangiana, 446

Five New Biflavonoids from Daphne aurantiaca, 1239

Baeckeins A and B, Two Novel 6-Methylflavonoids from the Roots of Baeckea frutescens, 2283

#### Flavonol, dihydro-

Isoprenoids and Flavonoids with Antimicrobial Activity from Ficus conraui WARBURG (Moraceae), 2231

#### **Fluorides**

On Novel Fluorine Reagents in Preparative Organic Chemistry, 947

#### Fluorine compounds

Stereoselective Preparation of 3-Amino-2-fluoro Carboxylic Acid Derivatives, and Their Incorporation in Tetrahydropyrimidin-4(1H)-ones, and in Open-Chain and Cyclic  $\beta$ -Peptides, 1908

Improved Large-Scale Liquid-Phase Synthesis and High-Temperature NMR Characterization of Short (F-)PNAs, 1952

Radical Cyclization of Fluorinated 1,3-Dicarbonyl Compounds with Dienes Using Manganese(III) Acetate and Synthesis of Fluoroacylated 4,5-Dihydrofurans, 2027

#### Folding equilibrium

Influence of Variation of a Side Chain on the Folding Equilibrium of a  $\beta$ -Peptide, 597

## Fortuneines A-C

Three New Sesquiterpene Pyridine Alkaloids from Euonymus fortunei, 1139

### Fragrance

A Novel Synthesis of  $\gamma$ , $\delta$ -Unsaturated Aldehydes from  $\alpha$ -Formyl- $\gamma$ -lactones, 1216

### Free enthalpy calculation

Influence of Variation of a Side Chain on the Folding Equilibrium of a  $\beta$ -Peptide, 597

### Frequency-response sorption rate spectra

Comparison of Dinitrogen, Methane, Carbon Monoxide, and Carbon Dioxide Mass-Transport Dynamics in Carbon and Zeolite Molecular Sieves. 206

### Freshwater clam

Polyoxygenated Sterols from Freshwater Clam, 892

### Friedel-Crafts reaction

Syntheses of Prekinamycin and a Tetracyclic Quinone from Common Synthetic Intermediates, 578

### Fungi

Ophiobolin Sesterterpenoids and Pyrrolidine Alkaloids from the Sponge-Derived Fungus Aspergillus ustus, 623

Oleanane-Type Triterpenoids from the Endophytic Fungus *Pestalotiopsis clavispora* Isolated from the Chinese Mangrove Plant *Bruguiera sexangula*, 1041

Two New Cyclic Pentapeptides from the Marine-Derived Fungus Aspergillus versicolor, 1065

Furanone Derivatives from Aspergillus sp. XW-12, an Endophytic Fungus in Huperzia serrata, 1454

Eremophilane-Type Sesquiterpenoids from the Fermentation Broth of Plant Endophytic Fungus *Pestalo-tiopsis photiniae* Isolated from the Chinese Podocarpaceae Plant *Podocarpus macrophyllus*, 1463

New Cytochalasins from the Marine-Derived Fungus Xylaria sp. SCSIO 156, 1671

## Furan, 2-[(trimethylsilyl)oxy]-

Indium(III) Chloride-Catalyzed Conversion of {[(Benzyloxy)carbonyl]amino}-Substituted Sulfones with 2-[(Trimethylsilyl)oxy]furan: A Facile Access to γ-Butenolactone Derivatives Containing a Protected Amino Group, 1048

# Furan-2.3-dione

On the Reactions of Furan-2,3-diones with Oxindole (=1,3-Dihydro-2*H*-indol-2-one) and *Lawesson* Reagent. Synthesis of New 1,3-Dihydro-2*H*-indol-2-ones, Bis-furanones, and Bis-pyrrolones, 801

# Furanone, imino-

Isocyanide-Based Multicomponent Reaction: One-Pot Synthesis of New Derivatives of Iminofuranone, 1806

### Furan-3(2H)-ones, 5-methoxy-

Furanone Derivatives from Aspergillus sp. XW-12, an Endophytic Fungus in Huperzia serrata, 1454

#### **Furans**

Synthesis of the Naphthalenone, Dihydroquinoline, and Dihydrofuran Derivatives, 1115

Studies on the Radical Cyclization of 3-Oxopropanenitriles and Alkenes with Cerium(IV) Ammonium Nitrate in Ether Solvents, 1335

Radical Cyclization of Fluorinated 1,3-Dicarbonyl Compounds with Dienes Using Manganese(III) Acetate and Synthesis of Fluoroacylated 4,5-Dihydrofurans, 2027

### Furostanol saponin

Two New Steroidal Saponins from the Fresh Leaves of Agave sisalana, 1351

### Fusarium species

Sesquiterpenoids from Fusarium sp., an Endophytic Fungus in Agriminia pilosa, 1254

### Gallicynoic acids G and H

First Stereoselective Total Synthesis of Gallicynoic Acids G and H, 1246

#### Garcimangosxanthones D and E

Two New Prenylated Xanthones from the Pericarp of Garcinia mangostana (Mangosteen), 2092

### Garcinia mangostana

Two New Prenylated Xanthones from the Pericarp of Garcinia mangostana (Mangosteen), 2092

### Garcinia xanthochymus

Two Unusual Xanthones from the Bark of Garcinia xanthochymus, 662

### Gardaubryones A-C

Dammarane Triterpenes from Gardenia aubryi Vieill., 656

### Gardenia aubryi

Dammarane Triterpenes from Gardenia aubryi Vieill., 656

### Gastrodia elata

Two New Phenolic Compounds from the Rhizomes of Gastrodia elata Blume, 1310

## Gel-entrapped base catalysts

Facile Knoevenagel and Domino Knoevenagel/Michael Reactions Using Gel-Entrapped Base Catalysts, 1943

## Gelsemium elegans

Two New Megastigmane Glycosides and a New Iridoid Glycoside from Gelsemium elegans, 1130

### Germanium complexes

A New Germanium Complex Containing Chelating Pyridinecarboxylate Ligands: *cis*-Dihydroxybis(pyridine-2-carboxylato-κ*N*<sup>1</sup>,κ*O*<sup>2</sup>)germanium Hydrate (1:2) (*cis*-[Ge(pyca)<sub>2</sub>(OH)<sub>2</sub>]·2 H<sub>2</sub>O), 1786

#### Glaucones

Bisresorcinol Derivatives from Grevillea glauca, 1812

### Glochidion assamicum

Oleanane-Type Triterpenoids from Glochidion assamicum, 2264

# Glucopyranosides

Two Glycosides and Other Constituents from Anemone tomentosa Roots, 711

### Glucosides

Chromenone Glucosides Acylated with Monoterpene Acids from the Leaves of *Eucalyptus camaldulensis* var. obtusa. 238

Caragisides A-C, New Isoflavone Glucosides from Caragana conferta with Inhibition of Platelet Aggregation, 438

Two New Flavonoids from the Rhizomes of Abacopteris penangiana, 446

Novel Cyanoglucosides from the Leaves of Hydrangea macrophylla, 847

# Glycosidase inhibitors

Highly Enantioselective Synthesis of Orthogonally Protected (2S)-2,3-Diaminopropanoates through Catalytic Phase-Transfer Aza-Henry Reaction, 1543

## Glycosides

Flavone 8-C-Glycosides from Haberlea rhodopensis Friv. (Gesneriaceae), 38

Ypsilactosides A and B, Two New C22-Steroidal Lactone Glycosides from Ypsilandra thibetica, 92

Cycloartane Glycosides from Three Species of Astragalus (Fabaceae), 230

New Isoflavone C-Glycosides from Pueraria lobata, 423

Three New Cycloartane (=9,19-Cyclolanostane) Glycosides from Cimicifuga foetida, 632

New Anthraquinone and Iridoid Glycosides from the Stems of Hedyotis hedyotidea, 675

Two New Megastigmane Glycosides and a New Iridoid Glycoside from Gelsemium elegans, 1130

Phenolic Glycosides from the Chinese Liverwort Reboulia hemisphaerica, 1146

Three New Steroidal Glycosides from the Roots of Cynanchum auriculatum, 1296

New Triterpenoid and Ergostane Glycosides from the Leaves of Hydrocotyle umbellata L., 1850

Polyhydroxypregnane Glycosides from the Roots of Cynanchum otophyllum, 2272

#### Godavarin K

Godavarin K: a New Limonoid with an Oxygen Bridge between C(1) and C(29) from the Godavari Mangrove *Xylocarpus moluccensis*, 1651

### Gold complexes

Novel Benzyl- or 4-Cyanobenzyl-Substituted N-Heterocyclic (Bromo)(carbene)silver(I) and (Carbene)-(chloro)gold(I) Complexes: Synthesis and Preliminary Cytotoxicity Studies, 1551

### (+)-Goniodiol

Total Synthesis of Leiocarpin C and (+)-Goniodiol via an Olefin Cross-Metathesis Protocol, 1102

#### Gouwenoside A

Two New Megastigmane Glycosides and a New Iridoid Glycoside from Gelsemium elegans, 1130

#### Graphite oxide

Palladium Nanoparticles on Graphite Oxide as Catalyst for Suzuki-Miyaura, Mizoroki-Heck, and Sonogashira Reactions, 966

### Grebustol A, 2'-methyl-

Bisresorcinol Derivatives from Grevillea glauca, 1812

### Grevillea glauca

Bisresorcinol Derivatives from Grevillea glauca, 1812

### Grignard reaction

Asymmetric Total Synthesis of Stagonolide G, 1226

Synthesis of 2,3-Diaryl-3*H*-pyrrolo[2,3-*c*]pyridin-3-ol Derivatives by the Reaction of Aryl(3-isocyanopyridin-4-yl)methanones with Aryl *Grignard* Reagents, 1234

CuBr/FeCl<sub>3</sub> Catalysis: a Novel and Efficient Method for the Preparation of New Aryl (Iminomethyl)propargyl Ether Derivatives *via* C-H Activation of Aryl Propargyl Ethers, 1692

Diastereoselective Alkyl *Grignard* 1,4-Additions to *para-Substituted* (2*R*)-*N-*Cinnamoylbornane-10,2-sultam Derivatives: Influence of N-Atom Pyramidalization, 2141

### Griseoviridins B and C

Two New 23-Membered Macrolactones from a Terrestrial Bacterium, Streptomyces sp. IMBJ01, 1448

## Haberlea rhodopensis

Flavone 8-C-Glycosides from Haberlea rhodopensis Friv. (Gesneriaceae), 38

### Halogen exchange

Tin(II) Halide Insertion or Halogen Exchange in the Reactions of Dihaloplatinum(II) Complexes with Tin(II) Halide, 1618

### Heck reaction

The Synthesis of Epiboxidine and Related Analogues as Potential Pharmacological Agents, 2054

### Hedanthrosides A-E

New Anthraquinone and Iridoid Glycosides from the Stems of Hedyotis hedyotidea, 675

### Hediridosides A and B

New Anthraquinone and Iridoid Glycosides from the Stems of Hedyotis hedyotidea, 675

## Hedvotis hedvotidea

New Anthraquinone and Iridoid Glycosides from the Stems of *Hedyotis hedyotidea*, 675

# Helix

*Note:* Helix or No Helix of  $\beta$ -Peptides Containing  $\beta$ <sup>3</sup>hAla( $\alpha$ F) Residues?, 355

## Hemsleyaconitines F and G

Hemsleyaconitines F and G, Two Novel C<sub>19</sub>-Diterpenoid Alkaloids Possessing a Unique Skeleton from *Aconitum hemsleyanum*, 268

### Heptalenedicarboxylates, dimethyl

Introduction of Adjacent Oxygen-Functionalities in Dimethyl Heptalenedicarboxylates, 1194

### Heptaleno[1,2-c]furan, 8,9-dimethoxy-6,7,11-trimethyl-

Introduction of Adjacent Oxygen-Functionalities in Dimethyl Heptalenedicarboxylates, 1194

#### Hertia intermedia

Eremophilenolide-Type Sesquiterpenes from Hertia intermedia, 163

#### Hertidins A - E

Eremophilenolide-Type Sesquiterpenes from Hertia intermedia, 163

#### Heteroarenamines

Synthesis of Diheteroarylamine Ligands by Palladium-Catalyzed Mono- and Diamination of Dichloroheteroarenes with Heteroarenamines. 46

#### Hetisine

Diterpenoid Alkaloids from Delphinium yunnanense, 254

### Histamine analogs

A Simple Synthesis of 5-(2-Aminophenyl)-1H-pyrazoles, 1703

### History of chemistry

The Woodward Research Institute, Robert Burns Woodward (1917–1979) and Chemistry behind the Glass Door, 923

### Homolignans

Seven New Lignan Esters from Kadsura philippinensis, 148

### C-Homopregnane-11,20-dione, 3α-hydroxy-

First Synthesis of a C-Homosteroid from Pregn-4-ene-3,11,20-trione, 98

### $\beta^2$ -Homoselenocysteine

Preparation of the  $\beta^2$ -Homoselenocysteine Derivatives Fmoc-(S)- $\beta^2$ hSec(PMB)-OH and Boc-(S)- $\beta^2$ hSec(PMB)-OH for Solution and Solid-Phase Peptide Synthesis, 1

### Hopane

Chemical Constituents from Fruits and Stem Bark of Celtis australis L., 464

### Huangqiyenins G-J

Huangqiyenins G-J, Four New 9,10-Secocycloartane (=9,19-Cyclo-9,10-secolanostane) Triterpenoidal Saponins from *Astragalus membranaceus* BUNGE Leaves, 2239

#### Huaspenones A and B

Furanone Derivatives from Aspergillus sp. XW-12, an Endophytic Fungus in Huperzia serrata, 1454

### Huisgen cycloaddition

'Click Synthesis' of 1*H*-1,2,3-Triazolyl-Based Oxiconazole (=(1*Z*)-1-(2,4-Dichlorophenyl)-2-(1*H*-imidazol-1-yl)ethanone *O*-[(2,4-Dichlorophenyl)methyl]oxime) Analogs, 2194

### Huisgen's zwitterions

Trichloroacetonitrile as a Source of Positive Chlorine Ion for Trapping Huisgen's Zwitterions, 811

### Huperzia serrata

Furanone Derivatives from Aspergillus sp. XW-12, an Endophytic Fungus in Huperzia serrata, 1454

# Hydrangea macrophylla

Novel Cyanoglucosides from the Leaves of Hydrangea macrophylla, 847

# Hydranitrilosides $A_1$ , $A_2$ , $B_1$ , and $B_2$

Novel Cyanoglucosides from the Leaves of Hydrangea macrophylla, 847

# Hydrazides

Synthesis and Selected Reactions of Hydrazides Containing an Imidazole Moiety, 1764

# Hydrazines

A Simple Synthesis of 5-(2-Aminophenyl)-1H-pyrazoles, 1703

# Hydrazones

Synthesis and Selected Reactions of Hydrazides Containing an Imidazole Moiety, 1764

### Hydriodic acid

Synthesis of 9,9-Disubstituted 9*H*-Pyrrolo[1,2-*a*]indoles by Hydriodic Acid-Catalyzed Cyclization of 1-[2-(1-Aryl(or methyl)ethenyl)]-1*H*-pyrroles, 1277

### Hydrocotyle umbellata

New Triterpenoid and Ergostane Glycosides from the Leaves of Hydrocotyle umbellata L., 1850

## Hydrogen bonds

Oligonucleotide Analogues with Integrated Bases and Backbone. Part 27. Synthesis and Association of Thiomethylene-Linked Cytidine-Derived Dinucleosides and Tetranucleosides, 545

### Hydrogen tunneling

Ions Can Move a Proton-Coupled Electron-Transfer Reaction into Tunneling Regime, 1718

### Hydrogenolysis

Exquisite Synthesis of a Designed PAR-1 Antagonist, 1981

#### Hydroxylation

Syntheses of Prekinamycin and a Tetracyclic Quinone from Common Synthetic Intermediates, 578

### Hypericum sampsonii

Two Unusual Phenolic Substances and One New Xanthone from Hypericum sampsonii, 686

#### Ichangol

A New Phenolic Diglycoside Produced in Response to Copper Toxicity and a New Flavan Dimer from the Leaves of *Viburnum ichangense* (Hemsl.) Rehd., 1677

#### Ichangoside

A New Phenolic Diglycoside Produced in Response to Copper Toxicity and a New Flavan Dimer from the Leaves of *Viburnum ichangense* (Hemsl.) Rehd., 1677

#### Ilex dunniana

Three New E-Secoursane Triterpenoid Saponins from the Leaves of Ilex dunniana, 2207

#### Imidazole derivatives

Reactions of Imidoyl Isoselenocyanates with Aromatic 2-Amino N-Heterocycles and 1-Methyl-1*H*-imidazole, 1575

Synthesis and Selected Reactions of Hydrazides Containing an Imidazole Moiety, 1764

### Imidazolium trifluoroacetate, 1-methyl-

An Efficient One-Pot, Four-Component Synthesis of {[(1*H*-1,2,3-Triazol-4-yl)methoxy]phenyl}-1*H*-pyrazolo[1,2-*b*]phthalazine-5,10-dione Derivatives, 1416

#### **Imidoyl anions**

Synthesis of 2,3-Diaryl-3*H*-pyrrolo[2,3-*c*]pyridin-3-ol Derivatives by the Reaction of Aryl(3-isocyanopyridin-4-yl)methanones with Aryl *Grignard* Reagents, 1234

### Imines, tosyl-

An Efficient Synthesis of [(Tosylamino)alkyl]naphthalenols by Nucleophilic Addition of Naphthalen-2-ol with N-Tosyl Imines Using Boron Trifluoride Etherate as Catalyst, 289

### Imino ethers, cyclic

One-Pot Synthesis of 2-Substituted 4-Aryl-4,5-dihydro-3,1-benzoxazepines from 2-(2-Aminophenyl)-1-arylethanols *via* Dehydration of the Corresponding Amides, 987

#### Immuno-modulating activity

New and Bioactive Sesquiterpenes from Schisandra sphenanthera, 2295

### **Inclusion complexes**

Inclusion Complexes of Coenzyme Q10 with Polyamine-Modified  $\beta$ -Cyclodextrins: Characterization, Solubilization, and Inclusion Mode, 1608

### Indeno[1,2-d]imidazoles

Rapid and Facile Access to Indeno[1,2-d]imidazoles via a Tandem Addition-Cyclization Reaction, 1802

### Indium chloride

Indium(III) Chloride-Catalyzed Conversion of {[(Benzyloxy)carbonyl]amino}-Substituted Sulfones with 2-[(Trimethylsilyl)oxy]furan: A Facile Access to γ-Butenolactone Derivatives Containing a Protected Amino Group, 1048

# Indole alkaloids

Two New Indole Alkaloids from the Bark of  $Anthocephalus\ chinensis$ , 1470

Streptomycindole, an Indole Alkaloid from a Marine *Streptomyces* sp. DA22 Associated with South China Sea Sponge *Craniella australiensis*, 1838

### Indolizidine alkaloids

Optical Resolution and Structure Determination of New Indolizidine Alkaloids from *Elaeocarpus sphaericus*, 347

## 2H-Indol-2-ones, 2-(acyloxy)-1,3-dihydro-

Reaction of 3-Hydroxyquinoline-2,4-diones with Isocyanates and Thermally Induced Transformation of the Reaction Products, 78

### Inhibitors

Two New Sesquiterpenes from Inula salsoloides and Their Inhibitory Activities against NO Production, 306

Synthesis and Characterization of Enantiomerically Pure cis- and trans-3-Fluoro-2,4-dioxa-9-aza-3-phosphadecalin 3-Oxides as Acetylcholine Mimetics and Inhibitors of Acetylcholinesterase, 746

Highly Enantioselective Synthesis of Orthogonally Protected (2S)-2,3-Diaminopropanoates through Catalytic Phase-Transfer Aza-Henry Reaction, 1543

### Inula japonica

Sesquiterpenoids from the Aerial Parts of Inula japonica, 1269

#### Inula salsoloides

Two New Sesquiterpenes from *Inula salsoloides* and Their Inhibitory Activities against NO Production, 306 **Inulasalene** 

Two New Sesquiterpenes from *Inula salsoloides* and Their Inhibitory Activities against NO Production, 306 **Inulasalsolide B** 

Two New Sesquiterpenes from *Inula salsoloides* and Their Inhibitory Activities against NO Production, 306 **Iodination** 

Synthesis, Characterization, X-Ray Structural Analysis, and Iodination Ability of Benzyl(triphenyl)phosphonium Dichloroiodate, 2248

#### Iodine

Efficient Synthesis of Tetrahydropyrimidines and Pyrrolidines by a Multicomponent Reaction of Dialkyl Acetylenedicarboxylates (=Dialkyl But-2-ynedioates), Amines, and Formaldehyde in the Presence of Iodine as a Catalyst, 2087

## Iridoid glycosides

New Anthraquinone and Iridoid Glycosides from the Stems of Hedyotis hedyotidea, 675

Two New Megastigmane Glycosides and a New Iridoid Glycoside from Gelsemium elegans, 1130

#### Iridoids

Two New Constituents from Torricellia tiliifolia Stem Barks, 327

#### **Isatine**

A Novel, One-Pot Four-Component Route to 2'-Thioxo-2',3'-dihydrospiro[indole-3,6'-[1,3]thiazin]-2-one Derivatives, 1315

### Isatoic anhydride

Reaction of Primary Alkylamines, Heterocumulenes, and Isatoic Anhydride, Catalyzed by Magnetic Fe<sub>3</sub>O<sub>4</sub> Nanoparticles in H<sub>2</sub>O, 1825

#### Isobenzofuran derivatives

Efficient and Chemoselective Methods for the Synthesis of Some Isobenzofuran and Spiro[isobenzofuran-1,2'-pyrrole] Derivatives, 410

#### Isocoumarin

Secondary Metabolites from the Fungus Monascus purpureus and Evaluation of Their Cytotoxic Activity, 1638

# Isocyanates

Reaction of 3-Hydroxyquinoline-2,4-diones with Isocyanates and Thermally Induced Transformation of the Reaction Products, 78

Reaction of Primary Alkylamines, Heterocumulenes, and Isatoic Anhydride, Catalyzed by Magnetic Fe<sub>3</sub>O<sub>4</sub> Nanoparticles in H<sub>2</sub>O, 1825

### Isocvanides

Synthesis of Dialkyl 2-(Alkylamino)-4,9-dihydro-9-oxocyclohepta[b]pyran-3,4-dicarboxylates, 371

Silica Nanoparticles as a Highly Efficient Catalyst for the One-Pot Synthesis of 2-Hydroxyacetamide Derivatives from Isocyanides and Electron-Poor Aromatic Aldehydes, 611

Isocyanide-Based Multicomponent Reaction: One-Pot Synthesis of New Derivatives of Iminofuranone, 1806 Preparation of Silica Nanoparticles from Organic Laboratory Waste of Silica Gel *HF*<sub>254</sub> and Their Use as a Highly Efficient Catalyst for the One-Pot Synthesis of 2,3-Dihydro-1*H*-isoindolone Derivatives, 1831

### Isodon nervosus

Three New Diterpenoids from Isodon nervosus, 1320

### Isoelaeocarpine, ( $\pm$ )-3-oxo-

Optical Resolution and Structure Determination of New Indolizidine Alkaloids from *Elaeocarpus sphaericus*, 347

### Isoflavone derivatives

A Novel Synthesis of Isoflavones via Copper(I)-Catalyzed Intramolecular Cyclization Reaction, 1304

#### Isoflavone glucosides

Caragisides A-C, New Isoflavone Glucosides from *Caragana conferta* with Inhibition of Platelet Aggregation, 438

#### Isoflavones

New Isoflavone C-Glycosides from Pueraria lobata, 423

#### Isoindigoid dyes

On the Reactions of Furan-2,3-diones with Oxindole (=1,3-Dihydro-2*H*-indol-2-one) and *Lawesson* Reagent. Synthesis of New 1,3-Dihydro-2*H*-indol-2-ones, Bis-furanones, and Bis-pyrrolones, 801

### 1H-Isoindol-1-ones, 2,3-dihydro-

Preparation of Silica Nanoparticles from Organic Laboratory Waste of Silica Gel *HF*<sub>254</sub> and Their Use as a Highly Efficient Catalyst for the One-Pot Synthesis of 2,3-Dihydro-1*H*-isoindolone Derivatives, 1831 Synthesis of 2-Aryl-2,3-dihydro-3-sulfanyl-1*H*-isoindol-1-ones by *Pummerer*-Type Cyclization of *N*-Aryl-2-(sulfinylmethyl)benzamides, 2002

#### Isonauclefidine

Two New Indole Alkaloids from the Bark of Anthocephalus chinensis, 1470

### Isoquinolines, 1,2-dihydro-

Trichloroacetonitrile as a Source of Positive Chlorine Ion for Trapping Huisgen's Zwitterions, 811

#### Isoselenocyanates

Reactions of Imidoyl Isoselenocyanates with Aromatic 2-Amino N-Heterocycles and 1-Methyl-1*H*-imidazole, 1575

#### Isothiocyanates

One-Pot Syntheses of 2-(2-Sulfanyl-4*H*-3,1-benzothiazin-4-yl)acetic Acid Derivatives *via* Reactions of 3-(2-Isothiocyanatophenyl)prop-2-enoic Acid Derivatives with Thiols or Sodium Sulfide, 111

Reaction of Primary Alkylamines, Heterocumulenes, and Isatoic Anhydride, Catalyzed by Magnetic Fe<sub>3</sub>O<sub>4</sub> Nanoparticles in H<sub>2</sub>O<sub>4</sub> 1825

### Isotope effect

Ions Can Move a Proton-Coupled Electron-Transfer Reaction into Tunneling Regime, 1718

#### Isoxazolines

The Synthesis of Epiboxidine and Related Analogues as Potential Pharmacological Agents, 2054

### Jatropha curcas

A New Tetracyclic Diterpene from Jatropha curcas, 842

### Jatrophodione A

A New Tetracyclic Diterpene from Jatropha curcas, 842

### Juglans mandshurica

Anthracene and Anthraquinone Derivatives from the Stem Bark of Juglans mandshurica MAXIM., 1488

# Juglanthracenoside A

Anthracene and Anthraquinone Derivatives from the Stem Bark of *Juglans mandshurica* MAXIM., 1488

# Juglanthraquinones A and B

Anthracene and Anthraquinone Derivatives from the Stem Bark of Juglans mandshurica MAXIM., 1488 Julia-Kocienski reaction

An Efficient Stereoselective Approach for the Synthesis of (+)-(4S,5S)-Muricatacin, 669

# Kadsufolins A - D

Kadsufolins A–D and Related Cytotoxic Lignans from *Kadsura oblongifolia*, 519

# Kadsuphilols P-V

Seven New Lignan Esters from *Kadsura philippinensis*, 148

### Kadsura oblongifolia

Kadsufolins A-D and Related Cytotoxic Lignans from Kadsura oblongifolia, 519

### Kadsura philippinensis

Seven New Lignan Esters from Kadsura philippinensis, 148

### Kampanols

Diels-Alder Reaction of 2-Ethenyl-1,3,3-trimethylcyclohexene with 4H-Chromen-4-ones: A Convergent Approach to ABCD Tetracyclic Core of Marine Diterpenoids Related to Puupehenone and Kampanols, 261

#### ent-Kauranoids

Two ent-Kaurane Diterpenoids from Rubus corchorifolius L. f., 1820

#### ent-Kaurenes

Two New 3,4-Seco-ent-kaurenes and Other Constituents from the Costa Rican Endemic Species Croton megistocarpus, 1888

### ent-Kaur-15-one, $(7\alpha,11\beta,14\beta,16R)$ -7,11,14-trihydroxy-

Terpenoids from the Chinese Liverwort Chiloscyphus polyanthus, 534

#### Ketals

An Efficient Photoinduced Deprotection of Aromatic Acetals and Ketals, 331

#### Ketones

Bioreduction of Acetophenone Derivatives by Red Marine Algae *Bostrychia radicans* and *B. tenella*, and Marine Bacteria Associated, 1506

#### Ketones, α-amino

Reaction of 3-Hydroxyquinoline-2,4-diones with Isocyanates and Thermally Induced Transformation of the Reaction Products, 78

#### Kinamycins

Syntheses of Prekinamycin and a Tetracyclic Quinone from Common Synthetic Intermediates, 578

#### Kinetics

1-[(E)-2-Arylethenyl]-2,2-diphenylcyclopropanes: Kinetics and Mechanism of Rearrangement to Cyclopentenes, 1359

Kinetics and Mechanism of Certain Acetylation Reactions with Acetamide/Oxychloride in Acetonitrile under Vilsmeier–Haack Conditions. 2168

### Knoevenagel condensation

Facile Synthesis of Substituted Ethyl 2-(Chloromethyl)-2-hydroxy-2*H*-1-benzopyran-3-carboxylates, 248 Facile *Knoevenagel* and Domino *Knoevenagel/Michael* Reactions Using Gel-Entrapped Base Catalysts, 1943

### Knoevenagel hetero-Diels-Alder reactions

Convergent Domino Knoevenagel Hetero-Diels-Alder and Domino Oxidation Hetero-Diels-Alder Reactions Encountered in an Unexpected Formation of Novel 5-Aryl-1H-pyrano[2,3-d]pyrimidine-2,4(3H,5H)-diones and 5-Aryl-2,3-dihydro-2-thioxo-1H-pyrano[2,3-d]pyrimidin-4(5H)-ones, 859

### Knoevenagel/Michael addition/cyclization reaction

Novel Four-Component Approach for the Synthesis of Polyfunctionalized 1,4-Dihydropyridines in Aqueous Media, 382

### Labdanes

Diterpenoids from Diplopterygium rufopilosum, 1085

### Lactams

The Woodward Research Institute, Robert Burns Woodward (1917–1979) and Chemistry behind the Glass Door, 923

A Convenient Synthesis of Functionalized  $\alpha$ -Methylidenebutano-4-lactams, 1662

### Lactone glycosides

Ypsilactosides A and B, Two New C22-Steroidal Lactone Glycosides from Ypsilandra thibetica, 92

### Lactone

Two Unusual Phenolic Substances and One New Xanthone from Hypericum sampsonii, 686

A Novel Synthesis of  $\gamma$ , $\delta$ -Unsaturated Aldehydes from  $\alpha$ -Formyl- $\gamma$ -lactones, 1216

Three New Peroxy Triterpene Lactones from Pseudolarix kaempferi, 1697

# Lactonization

An Efficient Stereoselective Approach for the Synthesis of (+)-(4S,5S)-Muricatacin, 669

# Lanostane triterpenoids

Triterpenoids from the Stems of Schisandra glaucescens, 1778

## Lassiocarpine, 15-O-acetyl-

Two New C<sub>20</sub>-Diterpenoid Alkaloids from Aconitum carmichaelii, 122

## Lawesson reagent

On the Reactions of Furan-2,3-diones with Oxindole (=1,3-Dihydro-2*H*-indol-2-one) and *Lawesson* Reagent. Synthesis of New 1,3-Dihydro-2*H*-indol-2-ones, Bis-furanones, and Bis-pyrrolones, 801

#### Ledol

Novel Sesquiterpenes from the Mycelial Cultures of Dichomitus squalens, 868

#### Leiocarpin C

Total Synthesis of Leiocarpin C and (+)-Goniodiol via an Olefin Cross-Metathesis Protocol, 1102

### Lepista sordida

Three New 3,6-Dioxygenated Diketopiperazines from the Basidiomycete Lepista sordida, 1426

### Lepistamides A-C

Three New 3,6-Dioxygenated Diketopiperazines from the Basidiomycete Lepista sordida, 1426

### Lewis acids

New Approach for the Construction of the Coumarin Frame and Application in the Total Synthesis of Natural Products, 185

On Novel Fluorine Reagents in Preparative Organic Chemistry, 947

## Libericosides A<sub>1</sub>/A<sub>2</sub>, B<sub>1</sub>/B<sub>2</sub>, and C<sub>2</sub>

Acylated Triterpene Saponins from Atroxima liberica STAPF, 2066

#### Lichen

Electrochemical Chlorination of Physcion - An Approach to Naturally Occurring Chlorinated Secondary Metabolites of Lichens, 1406

#### Lignans

Seven New Lignan Esters from Kadsura philippinensis, 148

Kadsufolins A-D and Related Cytotoxic Lignans from Kadsura oblongifolia, 519

#### Limonoids

Meliarachins A-K: Eleven Limonoids from the Twigs and Leaves of Melia azedarach, 1515

Godavarin K: a New Limonoid with an Oxygen Bridge between C(1) and C(29) from the Godavari Mangrove Xylocarpus moluccensis, 1651

## Loloanolides A and B

Three New Eudesmanolactones (= Eudesmanolides) from Camchaya loloana, 105

### Lycoris radiata

Amaryllidaceae Alkaloids from Lycoris radiata, 178

#### Macrocycles

Stereochemical Investigation of Macrocyclic Bisbibenzyls with a Stereogenic Center at One of the Ethylene Bridges, 2077

### Macrolactones

Two New 23-Membered Macrolactones from a Terrestrial Bacterium, Streptomyces sp. IMBJ01, 1448

### Magnolia kachirachirai

Secondary Metabolites from Magnolia kachirachirai, 703

### Malononitrile

Triethylamine-Catalyzed Efficient Synthesis of Oxathiolanes Containing a Highly Polarized Carbon-Carbon Double Bond from Reaction of Malononitrile, Carbon Disulfide (CS<sub>2</sub>), and Oxiranes, 639

### Manganese acetate

Radical Cyclization of Fluorinated 1,3-Dicarbonyl Compounds with Dienes Using Manganese(III) Acetate and Synthesis of Fluoroacylated 4,5-Dihydrofurans, 2027

### Manganese(III) catalyst

Manganese(III) Acetate Catalyzed Oxidative Radical Additions of  $\alpha$ -Dicarbonyl Compounds to 1- and 2-Phenylcyclohepta-1,3,5-triene, 1431

# Manganese complexes

Mechanism of (Salen)manganese(III)-Catalyzed Oxidation of Aryl Phenyl Sulfides with Sodium Hypochlorite, 453

### Manganese(III)-promoted cyclization

A New Synthesis of Fused Oxa- and Thiacrown Ethers-Thiophene/Furan Oligomers, 18

### Mannich-type reactions

Asymmetric Mannich-Type Synthesis of N-Phosphinyl α-Aminophosphonic Acid Monoesters, 1586

### Mappianthus iodoides

Two New Cytotoxic Alkaloids from Mappianthus iodoides HAND.-MAZZ., 1594

#### Mappine A

Two New Cytotoxic Alkaloids from Mappianthus iodoides HAND.-MAZZ., 1594

### Mapposidic acid

Two New Cytotoxic Alkaloids from Mappianthus iodoides HAND.-MAZZ., 1594

### Marchantia polymorpha

Stereochemical Investigation of Macrocyclic Bisbibenzyls with a Stereogenic Center at One of the Ethylene Bridges, 2077

### Marchantin E

Stereochemical Investigation of Macrocyclic Bisbibenzyls with a Stereogenic Center at One of the Ethylene Bridges, 2077

### Marie Curie

Marie Curie: Pioneering Discoveries and Humanitarianism, 1893

#### Marine algae

Bioreduction of Acetophenone Derivatives by Red Marine Algae *Bostrychia radicans* and *B. tenella*, and Marine Bacteria Associated. 1506

#### Marine bacteria

Bioreduction of Acetophenone Derivatives by Red Marine Algae *Bostrychia radicans* and *B. tenella*, and Marine Bacteria Associated, 1506

#### Marine diterpenoids

Diels-Alder Reaction of 2-Ethenyl-1,3,3-trimethylcyclohexene with 4H-Chromen-4-ones: A Convergent Approach to ABCD Tetracyclic Core of Marine Diterpenoids Related to Puupehenone and Kampanols, 261

### Marine sponges

Xestospongienols A-L, Brominated Acetylenic Acids from the Chinese Marine Sponge Xestospongia testudinaria, 1600

#### Maruoka allylation

Stereoselective Total Synthesis of Rugulactone, 1290

### Medicagenic acid

Three New Medicagenic Acid Saponins from Polygala micrantha Guill. & Perr., 914

### Megastigmane glycosides

Two New Megastigmane Glycosides and a New Iridoid Glycoside from Gelsemium elegans, 1130

### Meldrum's acid

A New Synthesis of Fused Oxa- and Thiacrown Ethers-Thiophene/Furan Oligomers, 18

A Different Role of Meldrum's Acid in the Biginelli Reaction, 199

Isocyanide-Based Multicomponent Reaction: One-Pot Synthesis of New Derivatives of Iminofuranone, 1806

## Melia azedarach

Meliarachins A-K: Eleven Limonoids from the Twigs and Leaves of Melia azedarach, 1515

# $Meliarachins \ A-K$

Meliarachins A-K: Eleven Limonoids from the Twigs and Leaves of Melia azedarach, 1515

### Mentha viridis

On the Reactivity of (-)-(R)-Carvone and (-)- $4a\alpha$ ,  $7\alpha$ ,  $7a\beta$ -Nepetalactone: Synthesis of New Heterocycles, 433

### Meroterpenes

Two New Meroterpenes from the Mangrove Endophytic Fungus Aspergillus sp. 085241B, 1875

### Metabolites

Constituents of the Endophytic Fungus Annulohypoxylon boveri var. microspora BCRC 34012, 1108

# Methanones, aryl(3-isocyanopyridin-4-yl)-

Synthesis of 2,3-Diaryl-3*H*-pyrrolo[2,3-*c*]pyridin-3-ol Derivatives by the Reaction of Aryl(3-isocyanopyridin-4-yl)methanones with Aryl *Grignard* Reagents, 1234

# Methicillin resistance

Two Unusual Phenolic Substances and One New Xanthone from Hypericum sampsonii, 686

### Methylene compounds

Facile Knoevenagel and Domino Knoevenagel/Michael Reactions Using Gel-Entrapped Base Catalysts, 1943

#### Michael addition

One-Pot Syntheses of 2-(2-Sulfanyl-4*H*-3,1-benzothiazin-4-yl)acetic Acid Derivatives *via* Reactions of 3-(2-Isothiocyanatophenyl)prop-2-enoic Acid Derivatives with Thiols or Sodium Sulfide, 111

Organocatalyzed *Michael* Addition of Aldehydes to Nitro Alkenes – Generally Accepted Mechanism Revisited and Revised, 719

On the Reactions of Furan-2,3-diones with Oxindole (=1,3-Dihydro-2*H*-indol-2-one) and *Lawesson* Reagent. Synthesis of New 1,3-Dihydro-2*H*-indol-2-ones, Bis-furanones, and Bis-pyrrolones, 801

Efficient Synthesis of (3*E*)-3-[Amino(aryl)methylidene]chromane-2,4-diones (=(3*E*)-3-[Amino(aryl)methylene]-2*H*-1-benzopyran-2,4(3*H*)-diones) *via* a Three-Component Reaction, 1440

Facile Knoevenagel and Domino Knoevenagel/Michael Reactions Using Gel-Entrapped Base Catalysts, 1943 Diastereoselective Alkyl Grignard 1,4-Additions to para-Substituted (2R)-N-Cinnamoylbornane-10,2-sultam Derivatives: Influence of N-Atom Pyramidalization, 2141

#### Micranthosides A-C

Three New Medicagenic Acid Saponins from Polygala micrantha Guill. & Perr., 914

### Mitsunobu reaction

An Efficient Stereoselective Approach for the Synthesis of (+)-(4S,5S)-Muricatacin, 669

#### Mizoroki-Heck reaction

Palladium Nanoparticles on Graphite Oxide as Catalyst for Suzuki-Miyaura, Mizoroki-Heck, and Sonogashira Reactions, 966

#### Molecular sieves

Comparison of Dinitrogen, Methane, Carbon Monoxide, and Carbon Dioxide Mass-Transport Dynamics in Carbon and Zeolite Molecular Sieves, 206

#### Molecular simulation

Influence of Variation of a Side Chain on the Folding Equilibrium of a  $\beta$ -Peptide, 597

#### Molecular-dynamics calculations

*Note*: Helix or No Helix of β-Peptides Containing  $\beta^3$ hAla( $\alpha$ F) Residues?, 355

### Molybdenum complexes

Molybdenum- and Tungsten-Based Coordination Polymers as Catalysts for an Efficient and Rapid Synthesis of Hexahydro-5-oxoquinoline-3-carboxylates and 1,4-Dihydropyridine-3,5-dicarboxylates, 885

#### Monaschromone

Secondary Metabolites from the Fungus Monascus purpureus and Evaluation of Their Cytotoxic Activity, 1638

### Monascus purpureus

Secondary Metabolites from the Fungus Monascus purpureus and Evaluation of Their Cytotoxic Activity, 1638

## Monascuspurpurone

Secondary Metabolites from the Fungus Monascus purpureus and Evaluation of Their Cytotoxic Activity, 1638

# Monolactim ether

Stereocontrolled Synthesis of Unnatural Tetrapeptides Containing L-Valine Units. Part 3, 127

### Monoterpenoids

Reactions of Verbenol Epoxide with Aromatic Aldehydes Containing Hydroxy or Methoxy Groups in the Presence of Montmorillonite Clay, 502

## Montmorillonite clay

Reactions of Verbenol Epoxide with Aromatic Aldehydes Containing Hydroxy or Methoxy Groups in the Presence of Montmorillonite Clay, 502

### **Multicomponent reactions**

Efficient Synthesis of [1,3]Oxazino[3,2-f]phenanthridine Derivatives by a Novel 1,4-Dipolar Cycloaddition Involving a Phenanthridine–Dimethyl Acetylenedicarboxylate Zwitterion and Aromatic Aldehydes, 169 A Different Role of *Meldrum*'s Acid in the *Biginelli* Reaction, 199

The Reaction of (*N*-Isocyanimino)triphenylphosphorane with Biacetyl in the Presence of Aromatic Carboxylic Acids: Efficient One-Pot Three-Component Reaction for the Synthesis of 3-(5-Aryl-1,3,4-oxadiazol-2-yl)-3-hydroxybutan-2-one Derivatives, 282

Synthesis of Dialkyl 2-(Alkylamino)-4,9-dihydro-9-oxocyclohepta[b]pyran-3,4-dicarboxylates, 371

Novel Four-Component Approach for the Synthesis of Polyfunctionalized 1,4-Dihydropyridines in Aqueous Media, 382

Silica Nanoparticles as a Highly Efficient Catalyst for the One-Pot Synthesis of 2-Hydroxyacetamide Derivatives from Isocyanides and Electron-Poor Aromatic Aldehydes, 611

Triethylamine-Catalyzed Efficient Synthesis of Oxathiolanes Containing a Highly Polarized Carbon-Carbon Double Bond from Reaction of Malononitrile, Carbon Disulfide (CS<sub>2</sub>), and Oxiranes, 639

Trichloroacetonitrile as a Source of Positive Chlorine Ion for Trapping Huisgen's Zwitterions, 811

Organic Reaction in Water: A Highly Efficient and Environmentally Friendly Synthesis of Spiro Compounds Catalyzed by L-Proline, 824

A Facile Synthesis of 2-Imino-4-methylene-1,3-dithiolanes, 831

Molybdenum- and Tungsten-Based Coordination Polymers as Catalysts for an Efficient and Rapid Synthesis of Hexahydro-5-oxoquinoline-3-carboxylates and 1,4-Dihydropyridine-3,5-dicarboxylates, 885

One-Pot, Four-Component Synthesis of Fully Substituted 1,3,4-Oxadiazole Derivatives from (Isocyanoimino)triphenylphosphorane, a Primary Amine, an Aromatic Carboxylic Acid, and Chloroacetone, 1024

A Novel, One-Pot Four-Component Route to 2'-Thioxo-2',3'-dihydrospiro[indole-3,6'-[1,3]thiazin]-2-one Derivatives, 1315

Synthesis of 2-Oxopyridine-Fused 1,3-Diazaheterocyclic Compounds *via* a Three-Component Reaction, 1343 Simple, Efficient, and Catalyst-Free Synthesis of (2-Amino-4*H*-1-benzopyran-4-yl)phosphonates in Polyethylene Glycol, 1347

An Efficient One-Pot, Four-Component Synthesis of {[(1*H*-1,2,3-Triazol-4-yl)methoxy]phenyl}-1*H*-pyrazolo[1,2-*b*]phthalazine-5,10-dione Derivatives, 1416

Efficient Synthesis of (3*E*)-3-[Amino(aryl)methylidene]chromane-2,4-diones (=(3*E*)-3-[Amino(aryl)methylene]-2*H*-1-benzopyran-2,4(3*H*)-diones) *via* a Three-Component Reaction, 1440

Metal-Free Multicomponent Synthesis of (a-Aminoalkyl)phosphonates Using 2,4,6-Trichloro-1,3,5-triazine, 1459

Isocyanide-Based Three-Component Synthesis of Pyrano-pyrido-quinoxalines, 1527

A New Four-Component Reaction for the Synthesis of Spiro[4*H*-indeno[1,2-*b*]pyridine-4,3'-[3*H*]indoles],

A Simple One-Pot Synthesis of N-Alkyl-2,5-diaryl-1,3-dioxol-4-amines, 1657

Isocyanide-Based Multicomponent Reaction: One-Pot Synthesis of New Derivatives of Iminofuranone, 1806 Preparation of Silica Nanoparticles from Organic Laboratory Waste of Silica Gel *HF*<sub>254</sub> and Their Use as a Highly Efficient Catalyst for the One-Pot Synthesis of 2,3-Dihydro-1*H*-isoindolone Derivatives, 1831

Efficient Synthesis of Tetrahydropyrimidines and Pyrrolidines by a Multicomponent Reaction of Dialkyl Acetylenedicarboxylates (= Dialkyl But-2-ynedioates), Amines, and Formaldehyde in the Presence of Iodine as a Catalyst, 2087

Diversity-Oriented Synthesis of Novel 2'-Aminospiro[11*H*-indeno[1,2-*b*]quinoxaline-11,4'-[4*H*]pyran] Derivatives *via* a One-Pot Four-Component Reaction, 2289

### (+)-(4S.5S)-Muricatacin

An Efficient Stereoselective Approach for the Synthesis of (+)-(4S,5S)-Muricatacin, 669

### Mycosporines

Isolation and Structural Elucidation of Novel Mycosporine-Like Amino Acids as Alarm Cues in the Defensive Ink Secretion of the Sea Hare *Aplysia californica*, 1012

## Nanocatalysts

Silica Nanoparticles as a Highly Efficient Catalyst for the One-Pot Synthesis of 2-Hydroxyacetamide Derivatives from Isocyanides and Electron-Poor Aromatic Aldehydes, 611

### Nanoparticles

Reaction of Primary Alkylamines, Heterocumulenes, and Isatoic Anhydride, Catalyzed by Magnetic Fe<sub>3</sub>O<sub>4</sub> Nanoparticles in H<sub>2</sub>O, 1825

Preparation of Silica Nanoparticles from Organic Laboratory Waste of Silica Gel *HF*<sub>254</sub> and Their Use as a Highly Efficient Catalyst for the One-Pot Synthesis of 2,3-Dihydro-1*H*-isoindolone Derivatives, 1831

### Naphthalen-2-ols

An Efficient Synthesis of [(Tosylamino)alkyl]naphthalenols by Nucleophilic Addition of Naphthalen-2-ol with N-Tosyl Imines Using Boron Trifluoride Etherate as Catalyst, 289

## Naphthalenones

Synthesis of the Naphthalenone, Dihydroquinoline, and Dihydrofuran Derivatives, 1115

### Naphthooxazocine

A Facile Synthesis of Bridged Polycyclic Naphthooxazocine Skeletons: Eight-Membered-Ring Constructions *via* Tandem Dinucleophilic Addition of Naphthalenols to Quinolinium Salts, 142

### Naphtho-γ-pyrones

Cytotoxic Naphtho-γ-pyrones from the Mangrove Endophytic Fungus Aspergillus tubingensis (GX1-5E), 1732

# Naphthoquinones

Two New Cytotoxic Naphthoquinones from Didymocarpus hedyotideus, 404

### Neoclerodane diterpenoids

neo-Clerodane Diterpenoids from the Aerial Part of Scutellaria barbata, 643

## Neolignans

Three New Neolignans and One New Phenylpropanoid from the Leaves and Stems of *Toona ciliata* var. pubescens, 1685

### Nepeta clarkei

Nepethalates A and B: Two New Phthalate Derivatives from Nepeta clarkei, 2106

### Nepeta tuberosa

On the Reactivity of (-)-(R)-Carvone and (-)-4a $\alpha$ ,7 $\alpha$ ,7a $\beta$ -Nepetalactone: Synthesis of New Heterocycles, 433

### Nepetalactone

On the Reactivity of (-)-(R)-Carvone and (-)-4a $\alpha$ ,7 $\alpha$ ,7a $\beta$ -Nepetalactone: Synthesis of New Heterocycles, 433

### Nepethalates A and B

Nepethalates A and B: Two New Phthalate Derivatives from Nepeta clarkei, 2106

#### Nickel complexes

A Novel Briggs-Rauscher Oscillation with a Macrocyclic Nickel(II) Complex as Catalyst and Pentane-2,4-dione as the Substrate, 903

### Nitroso amines

The 't-Amino Effect' of ortho-Nitroso Amines. Synthesis of 2,6-Diaminoadenine Derivatives from 6-(Dialkylamino)-5-nitrosopyrimidines, 785

### Nitroso spin traps

Spin Trapping of Radical Intermediates Generated by the Oxidation of Substituted 4-Methylphenols, 1260

### NMR Spectroscopy

*Note:* Helix or No Helix of  $\beta$ -Peptides Containing  $\beta$ <sup>3</sup>hAla( $\alpha$ F) Residues?, 355

Improved Large-Scale Liquid-Phase Synthesis and High-Temperature NMR Characterization of Short (F-)PNAs, 1952

## Nobel prize

Marie Curie: Pioneering Discoveries and Humanitarianism, 1893

### Norlabdane diterpenoids

Nine New Norlabdane Diterpenoids from the Leaves of Austroeupatorium inulifolium, 313

### Nortriterpenoids

Terpenes from Schisandra sphenanthera, 491

### Nucleic acids

Improved Large-Scale Liquid-Phase Synthesis and High-Temperature NMR Characterization of Short (F-)PNAs, 1952

### Nucleobases

Improved Large-Scale Liquid-Phase Synthesis and High-Temperature NMR Characterization of Short (F-)PNAs, 1952

### Nucleosides

Oligonucleotide Analogues with Integrated Bases and Backbone. Part 27. Synthesis and Association of Thiomethylene-Linked Cytidine-Derived Dinucleosides and Tetranucleosides, 545

On Novel Fluorine Reagents in Preparative Organic Chemistry, 947

### Nucleotides

Nucleotides. Part LXXIX. New Building Blocks for Photolithographic Syntheses of Oligoribonucleotides, 362

#### Oleanane

Oleanane-Type Triterpenoids from Glochidion assamicum, 2264

### $(3\alpha)$ -Olean-12-ene-3,23-diol

Triterpenoids from the Flowers of Salvia miltiorrhiza, 136

#### Olefin cross-metathesis

An Efficient Stereoselective Total Synthesis of Synargentolide A and Its Epimer, 881

Total Synthesis of Leiocarpin C and (+)-Goniodiol via an Olefin Cross-Metathesis Protocol, 1102

#### Oleraceins F and G

Two Antioxidant Alkaloids from Portulaca oleracea L., 497

#### Oligonucleosides

Oligonucleotide Analogues with Integrated Bases and Backbone. Part 27. Synthesis and Association of Thiomethylene-Linked Cytidine-Derived Dinucleosides and Tetranucleosides, 545

### Oligonucleotides

Oligonucleotide Analogues with Integrated Bases and Backbone. Part 27. Synthesis and Association of Thiomethylene-Linked Cytidine-Derived Dinucleosides and Tetranucleosides, 545

Oligonucleotide Analogues with Integrated Bases and Backbone. Part 28. Hydrazide- and Amide-Linked Analogues. 2. Di-, Tetra-, Octa-, and Decamers: Synthesis and Association, 1153

#### Oligopeptides

Synthesis of Poly-Aib Oligopeptides and Aib-Containing Peptides *via* the 'Azirine/Oxazolone Method', and Their Crystal Structures, 993

#### Oligoribonucleotides

Nucleotides. Part LXXIX. New Building Blocks for Photolithographic Syntheses of Oligoribonucleotides, 362

#### One-step perturbation

Influence of Variation of a Side Chain on the Folding Equilibrium of a  $\beta$ -Peptide, 597

#### Ononoside

Caragisides A-C, New Isoflavone Glucosides from *Caragana conferta* with Inhibition of Platelet Aggregation, 438

### **Opaline**

Isolation and Structural Elucidation of Novel Mycosporine-Like Amino Acids as Alarm Cues in the Defensive Ink Secretion of the Sea Hare *Aplysia californica*, 1012

## Oppolzer camphor-derived sultam

Asymmetric Synthesis of Simplactones A and B, 1481

### Organocatalysis

Organocatalyzed *Michael* Addition of Aldehydes to Nitro Alkenes – Generally Accepted Mechanism Revisited and Revised, 719

Highly Enantioselective Synthesis of Orthogonally Protected (2S)-2,3-Diaminopropanoates through Catalytic Phase-Transfer Aza-Henry Reaction, 1543

### Oscillating reaction

A Novel Briggs-Rauscher Oscillation with a Macrocyclic Nickel(II) Complex as Catalyst and Pentane-2,4-dione as the Substrate, 903

# Oxabicyclo[5.2.0]nonan-2-ones

Synthesis of *trans*-Fused Oxabicyclo[5.2.0]nonan-2-ones *via* [2+2] Photocycloaddition of Oxepinones to Conjugated Alkenes, 768

Interconversion of cis- and trans-Fused Oxabicyclo [5.2.0] nonan-2-ones, 1994

### Oxacrown ethers

A New Synthesis of Fused Oxa- and Thiacrown Ethers-Thiophene/Furan Oligomers, 18

### 1,3,4-Oxadiazoles

The Reaction of (N-Isocyanimino)triphenylphosphorane with Biacetyl in the Presence of Aromatic Carboxylic Acids: Efficient One-Pot Three-Component Reaction for the Synthesis of 3-(5-Aryl-1,3,4-oxadiazol-2-yl)-3-hydroxybutan-2-one Derivatives, 282

One-Pot, Four-Component Synthesis of Fully Substituted 1,3,4-Oxadiazole Derivatives from (Isocyano-imino)triphenylphosphorane, a Primary Amine, an Aromatic Carboxylic Acid, and Chloroacetone, 1024

# Oxathiolanes

Triethylamine-Catalyzed Efficient Synthesis of Oxathiolanes Containing a Highly Polarized Carbon-Carbon Double Bond from Reaction of Malononitrile, Carbon Disulfide (CS<sub>2</sub>), and Oxiranes, 639

Reaction of Optically Active Oxiranes with Thiofenchone and 1-Methylpyrrolidine-2-thione: Formation of 1,3-Oxathiolanes and Thiiranes, 773

## [1,3]Oxazino[3,2-f]phenanthridines

Efficient Synthesis of [1,3]Oxazino[3,2-f]phenanthridine Derivatives by a Novel 1,4-Dipolar Cycloaddition Involving a Phenanthridine–Dimethyl Acetylenedicarboxylate Zwitterion and Aromatic Aldehydes, 169

### Oxazolo[5,4-c]quinoline-2,4(3aH,5H)-diones

Reaction of 3-Hydroxyquinoline-2,4-diones with Isocyanates and Thermally Induced Transformation of the Reaction Products. 78

### Oxepinones

Interconversion of cis- and trans-Fused Oxabicyclo[5.2.0]nonan-2-ones, 1994

### Oxiconazole analogs

\*Click Synthesis\* of 1H-1,2,3-Triazolyl-Based Oxiconazole (= (1Z)-1-(2,4-Dichlorophenyl)-2-(1H-imidazol-1-yl)ethanone O-[(2,4-Dichlorophenyl)methyl]oxime) Analogs, 2194

#### Oxidation reactions

Mechanism of (Salen)manganese(III)-Catalyzed Oxidation of Aryl Phenyl Sulfides with Sodium Hypochlorite, 453

### Oxime ethers

Synthesis and Mechanistic Study of Steroidal Oxime Ethers, 2256

#### Oxindole

On the Reactions of Furan-2,3-diones with Oxindole (=1,3-Dihydro-2*H*-indol-2-one) and *Lawesson* Reagent. Synthesis of New 1,3-Dihydro-2*H*-indol-2-ones, Bis-furanones, and Bis-pyrrolones, 801

#### Oxiranes

Triethylamine-Catalyzed Efficient Synthesis of Oxathiolanes Containing a Highly Polarized Carbon-Carbon Double Bond from Reaction of Malononitrile, Carbon Disulfide (CS<sub>2</sub>), and Oxiranes, 639

Reaction of Optically Active Oxiranes with Thiofenchone and 1-Methylpyrrolidine-2-thione: Formation of 1,3-Oxathiolanes and Thiiranes, 773

#### **Ozonolysis**

First Synthesis of a C-Homosteroid from Pregn-4-ene-3,11,20-trione, 98

### Palladium catalysis

Synthesis of Diheteroarylamine Ligands by Palladium-Catalyzed Mono- and Diamination of Dichloroheteroarenes with Heteroarenamines, 46

## Palladium nanoparticles

Palladium Nanoparticles on Graphite Oxide as Catalyst for Suzuki-Miyaura, Mizoroki-Heck, and Sonogashira Reactions, 966

### Pallensin

Phytochemical Investigation of Artemisia pallens, 73

### Panax japonicus

New Dammarane-Type Saponins from the Rhizomes of Panax japonicus, 2010

### **PAR-1 Antagonist**

Exquisite Synthesis of a Designed PAR-1 Antagonist, 1981

### Passerini reaction

The Reaction of (N-Isocyanimino)triphenylphosphorane with Biacetyl in the Presence of Aromatic Carboxylic Acids: Efficient One-Pot Three-Component Reaction for the Synthesis of 3-(5-Aryl-1,3,4-oxadiazol-2-yl)-3-hydroxybutan-2-one Derivatives, 282

# Patchoulol derivatives

New Patchoulol-Type Sesquiterpenoids from Pogostemon cablin, 218

## Peganum nigellastrum

Two New Alkaloids from the Aerial Part of Peganum nigellastrum, 514

## Penicillium janthinellum

Dicitrinol, a Citrinin Dimer, Produced by Penicillium janthinellum, 835

## Pentane-2,4-dione

A Novel Briggs-Rauscher Oscillation with a Macrocyclic Nickel(II) Complex as Catalyst and Pentane-2,4dione as the Substrate. 903

#### Peptide nucleic acids

Improved Large-Scale Liquid-Phase Synthesis and High-Temperature NMR Characterization of Short (F-)PNAs. 1952

#### Peptide

Preparation of the  $\beta^2$ -Homoselenocysteine Derivatives Fmoc-(S)- $\beta^2$ hSec(PMB)-OH and Boc-(S)- $\beta^2$ hSec(PMB)-OH for Solution and Solid-Phase Peptide Synthesis, 1

Stereocontrolled Synthesis of Unnatural Tetrapeptides Containing L-Valine Units. Part 3, 127

*Note:* Helix or No Helix of  $\beta$ -Peptides Containing  $\beta$ <sup>3</sup>hAla( $\alpha$ F) Residues?, 355

Influence of Variation of a Side Chain on the Folding Equilibrium of a  $\beta$ -Peptide, 597

Synthesis of Poly-Aib Oligopeptides and Aib-Containing Peptides *via* the 'Azirine/Oxazolone Method', and Their Crystal Structures, 993

Two New Cyclic Pentapeptides from the Marine-Derived Fungus Aspergillus versicolor, 1065

Oligonucleotide Analogues with Integrated Bases and Backbone. Part 28. Hydrazide- and Amide-Linked Analogues. 2. Di-, Tetra-, Octa-, and Decamers: Synthesis and Association, 1153

Stereoselective Preparation of 3-Amino-2-fluoro Carboxylic Acid Derivatives, and Their Incorporation in Tetrahydropyrimidin-4(1H)-ones, and in Open-Chain and Cyclic  $\beta$ -Peptides, 1908

### Peroxy-multiflorane triterpene esters

A New Peroxy-multiflorane Triterpene Ester from the Processed Seeds of Trichosanthes kirilowii, 1881

### Pestalotiopins B and C

Eremophilane-Type Sesquiterpenoids from the Fermentation Broth of Plant Endophytic Fungus *Pestalo-tiopsis photiniae* Isolated from the Chinese Podocarpaceae Plant *Podocarpus macrophyllus*, 1463

#### Pestalotiopsis clavispora

Oleanane-Type Triterpenoids from the Endophytic Fungus *Pestalotiopsis clavispora* Isolated from the Chinese Mangrove Plant *Bruguiera sexangula*, 1041

## Pestalotiopsis photiniae

Eremophilane-Type Sesquiterpenoids from the Fermentation Broth of Plant Endophytic Fungus *Pestalo-tiopsis photiniae* Isolated from the Chinese Podocarpaceae Plant *Podocarpus macrophyllus*, 1463

### Phenalene derivatives, phenyl-

New Phenylphenalene Derivatives from Water Hyacinth (Eichhornia crassipes), 61

### Phenolic compounds

Two New Phenolic Compounds from the Rhizomes of Gastrodia elata Blume, 1310

A New Phenolic Diglycoside Produced in Response to Copper Toxicity and a New Flavan Dimer from the Leaves of *Viburnum ichangense* (Hemsl.) Rehd., 1677

## Phenolic glycosides

Phenolic Glycosides from the Chinese Liverwort  $Reboulia\ hemisphaerica, 1146$ 

### Phenols, iodo-

Synthesis, Characterization, X-Ray Structural Analysis, and Iodination Ability of Benzyl(triphenyl)phosphonium Dichloroiodate, 2248

# Phenols, 4-methyl-

Spin Trapping of Radical Intermediates Generated by the Oxidation of Substituted 4-Methylphenols, 1260

### Phenylnitrile oxide, 4-chloro-

On the Reactivity of (-)-(R)-Carvone and (-)-4a $\alpha$ ,7 $\alpha$ ,7a $\beta$ -Nepetalactone: Synthesis of New Heterocycles, 433

# Phenylpropanoids

Three New Neolignans and One New Phenylpropanoid from the Leaves and Stems of *Toona ciliata* var. pubescens, 1685

### Phosphonates, (α-aminoalkyl)-

Metal-Free Multicomponent Synthesis of (α-Aminoalkyl)phosphonates Using 2,4,6-Trichloro-1,3,5-triazine,

## Phosphonates, 2-amino-4H-chromen-4-yl

Simple, Efficient, and Catalyst-Free Synthesis of (2-Amino-4*H*-1-benzopyran-4-yl)phosphonates in Polyethylene Glycol, 1347

### Phosphorane, (N-isocyanimino)triphenyl-

The Reaction of (N-Isocyanimino)triphenylphosphorane with Biacetyl in the Presence of Aromatic Carboxylic Acids: Efficient One-Pot Three-Component Reaction for the Synthesis of 3-(5-Aryl-1,3,4-oxadiazol-2-yl)-3-hydroxybutan-2-one Derivatives, 282

One-Pot, Four-Component Synthesis of Fully Substituted 1,3,4-Oxadiazole Derivatives from (Isocyanoimino)triphenylphosphorane, a Primary Amine, an Aromatic Carboxylic Acid, and Chloroacetone, 1024

#### Phosphoryl chloride

One-Pot Synthesis of 2-Substituted 4-Aryl-4,5-dihydro-3,1-benzoxazepines from 2-(2-Aminophenyl)-1-arylethanols *via* Dehydration of the Corresponding Amides, 987

#### **Photochemistry**

On the Ligand-to-Metal Charge-Transfer Photochemistry of the Copper(II) Complexes of Quercetin and Rutin, 293

Photo-Cross-Linking of Polymethacrylates with Stilbene Chromophores in the Side Chains, 2111

### Photocycloadditions

Synthesis of *trans*-Fused Oxabicyclo[5.2.0]nonan-2-ones *via* [2+2] Photocycloaddition of Oxepinones to Conjugated Alkenes, 768

Photocycloaddition of 4-(Alk-1-ynyl)-Substituted Coumarins and Thiocoumarins to 2,3-Dimethylbuta-1,3-diene. 1030

Interconversion of cis- and trans-Fused Oxabicyclo [5.2.0] nonan-2-ones, 1994

### Photodeprotection

An Efficient Photoinduced Deprotection of Aromatic Acetals and Ketals, 331

### Photolabile protecting groups

An Efficient Photoinduced Deprotection of Aromatic Acetals and Ketals, 331

### Photolithographic synthesis

Nucleotides. Part LXXIX. New Building Blocks for Photolithographic Syntheses of Oligoribonucleotides, 362

# Photooxidation

An Efficient Photoinduced Deprotection of Aromatic Acetals and Ketals, 331

#### **Phthalates**

Nepethalates A and B: Two New Phthalate Derivatives from Nepeta clarkei, 2106

### Phthalazine-5,10-dione derivatives

An Efficient One-Pot, Four-Component Synthesis of {[(1*H*-1,2,3-Triazol-4-yl)methoxy]phenyl}-1*H*-pyrazolo[1,2-*b*]phthalazine-5,10-dione Derivatives, 1416

### Phthalohydrazide

An Efficient One-Pot, Four-Component Synthesis of  $\{[(1H-1,2,3-Triazol-4-yl)methoxy]phenyl\}-1H-pyrazolo[1,2-b]phthalazine-5,10-dione Derivatives, 1416$ 

# Physcion

Electrochemical Chlorination of Physcion – An Approach to Naturally Occurring Chlorinated Secondary Metabolites of Lichens, 1406

# (-)-Physostigmine

An Efficient Synthesis of a (–)-Physostigmine's Library for Identifying Potential Anti-Alzheimer's Agents, 1496

# Pieris formosa

Highly Acylated 3,4-Secograyanane Diterpenoids from the Fruits of *Pieris formosa*, 1283

## Platinum complexes

Tin(II) Halide Insertion or Halogen Exchange in the Reactions of Dihaloplatinum(II) Complexes with Tin(II) Halide, 1618

## **PNA Analogues**

Oligonucleotide Analogues with Integrated Bases and Backbone. Part 28. Hydrazide- and Amide-Linked Analogues. 2. Di-, Tetra-, Octa-, and Decamers: Synthesis and Association, 1153

### Podocarpus macrophyllus

Eremophilane-Type Sesquiterpenoids from the Fermentation Broth of Plant Endophytic Fungus *Pestalo*tionsis photiniae Isolated from the Chinese Podocarpaceae Plant *Podocarpus macrophyllus*. 1463

### Pogostemon cablin

New Patchoulol-Type Sesquiterpenoids from Pogostemon cablin, 218

#### Polyanthuslide

Terpenoids from the Chinese Liverwort Chiloscyphus polyanthus, 534

#### Polygala micrantha

Three New Medicagenic Acid Saponins from Polygala micrantha Guill. & Perr., 914

#### Polyhydroxypregnane glycosides

Polyhydroxypregnane Glycosides from the Roots of Cynanchum otophyllum, 2272

#### Polyketides

New Polyketides Isolated from Botryosphaeria australis Strain ZJ12-1A, 897

#### Polymethacrylates

Photo-Cross-Linking of Polymethacrylates with Stilbene Chromophores in the Side Chains, 2111

#### Polyynes

Polyynes from Toona ciliata var. ciliata and Related Cytotoxic Activity, 376

#### Portulaca oleracea

Two Antioxidant Alkaloids from Portulaca oleracea L., 497

#### Pregn-4-ene-3,11,20-trione

First Synthesis of a C-Homosteroid from Pregn-4-ene-3,11,20-trione, 98

## Prekinamycin

Syntheses of Prekinamycin and a Tetracyclic Quinone from Common Synthetic Intermediates, 578

#### Prionoid E

First Total Synthesis of Prionoid E, A Bioactive Rearranged Secoabietane Diterpene Quinone from Salvia prionitis, 1326

## Prismatomeris connata

A New Anthraquinone and Two New Tetrahydroanthraquinones from the Roots of *Prismatomeris connata*, 1843

#### **Prodrugs**

A Concise Route to Valacyclovir Hydrochloride, 592

#### **L-Proline**

Organic Reaction in Water: A Highly Efficient and Environmentally Friendly Synthesis of Spiro Compounds Catalyzed by L-Proline, 824

#### Propanenitriles, 3-oxo-

Studies on the Radical Cyclization of 3-Oxopropanenitriles and Alkenes with Cerium(IV) Ammonium Nitrate in Ether Solvents, 1335

## (2S)-Propanoic acids, 2,3-diamino-

Highly Enantioselective Synthesis of Orthogonally Protected (2S)-2,3-Diaminopropanoates through Catalytic Phase-Transfer Aza-Henry Reaction, 1543

## Propargyl bromide

A Facile Synthesis of 2-Imino-4-methylene-1,3-dithiolanes, 831

# Propargyloxy aldehydes

An Efficient One-Pot, Four-Component Synthesis of {[(1*H*-1,2,3-Triazol-4-yl)methoxy]phenyl}-1*H*-pyrazolo[1,2-*b*]phthalazine-5,10-dione Derivatives, 1416

# Prop-2-enoates, aryl 3-(dimethylamino)-

New Approach for the Construction of the Coumarin Frame and Application in the Total Synthesis of Natural Products, 185

## Prop-2-enoates, 3-(2-isothiocyanatophenyl)-

One-Pot Syntheses of 2-(2-Sulfanyl-4*H*-3,1-benzothiazin-4-yl)acetic Acid Derivatives *via* Reactions of 3-(2-Isothiocyanatophenyl)prop-2-enoic Acid Derivatives with Thiols or Sodium Sulfide, 111

## **Prostaglandins**

The Woodward Research Institute, Robert Burns Woodward (1917–1979) and Chemistry behind the Glass Door, 923

## Proton-coupled electron transfer (PCET)

Ions Can Move a Proton-Coupled Electron-Transfer Reaction into Tunneling Regime, 1718

## Pseudolarix kaempferi

Three New Peroxy Triterpene Lactones from Pseudolarix kaempferi, 1697

## Pseudolarolides Q2, T1, and T2

Three New Peroxy Triterpene Lactones from Pseudolarix kaempferi, 1697

## Psidium guajava

Antimicrobial Depsides Produced by *Cladosporium uredinicola*, an Endophytic Fungus Isolated from *Psidium guajava* Fruits, 1077

#### Pueraria lobata

New Isoflavone C-Glycosides from Pueraria lobata, 423

## Pummerer reaction

Synthesis of 2-Aryl-2,3-dihydro-3-sulfanyl-1*H*-isoindol-1-ones by *Pummerer*-Type Cyclization of *N*-Aryl-2-(sulfinylmethyl)benzamides, 2002

#### Purines, tricyclic 2,6-diamino-

The 't-Amino Effect' of ortho-Nitroso Amines. Synthesis of 2,6-Diaminoadenine Derivatives from 6-(Dialkylamino)-5-nitrosopyrimidines, 785

#### Puupehenones

Diels-Alder Reaction of 2-Ethenyl-1,3,3-trimethylcyclohexene with 4H-Chromen-4-ones: A Convergent Approach to ABCD Tetracyclic Core of Marine Diterpenoids Related to Puupehenone and Kampanols, 261

#### Pyrano[2,3-d]pyrimidine

Convergent Domino *Knoevenagel* Hetero-*Diels-Alder* and Domino Oxidation Hetero-*Diels-Alder* Reactions Encountered in an Unexpected Formation of Novel 5-Aryl-1*H*-pyrano[2,3-*d*]pyrimidine-2,4(3*H*,5*H*)-diones and 5-Aryl-2,3-dihydro-2-thioxo-1*H*-pyrano[2,3-*d*]pyrimidin-4(5*H*)-ones, 859

#### 1H-Pyrazoles

A Simple Synthesis of 5-(2-Aminophenyl)-1H-pyrazoles, 1703

## Pyridin-3-amine

Synthesis of 2,3-Diaryl-3*H*-pyrrolo[2,3-*c*]pyridin-3-ol Derivatives by the Reaction of Aryl(3-isocyanopyridin-4-yl)methanones with Aryl *Grignard* Reagents, 1234

#### Pyridine alkaloids

Two New Constituents from Torricellia tiliifolia Stem Barks, 327

#### Pyridine, 2-amino-3-methyl-

Reactions of Imidoyl Isoselenocyanates with Aromatic 2-Amino N-Heterocycles and 1-Methyl-1*H*-imidazole, 1575

#### Pyridine, oxygen-bridged

A Different Role of Meldrum's Acid in the Biginelli Reaction, 199

# Pyridine-3,5-dicarboxylates, 1,4-dihydro-

Molybdenum- and Tungsten-Based Coordination Polymers as Catalysts for an Efficient and Rapid Synthesis of Hexahydro-5-oxoquinoline-3-carboxylates and 1,4-Dihydropyridine-3,5-dicarboxylates, 885

## Pyridines, 1,4-dihydro-

Novel Four-Component Approach for the Synthesis of Polyfunctionalized 1,4-Dihydropyridines in Aqueous Media, 382

Trichloroacetonitrile as a Source of Positive Chlorine Ion for Trapping Huisgen's Zwitterions, 811

## Pyridin-2(1H)-one

Synthesis of 2-Oxopyridine-Fused 1,3-Diazaheterocyclic Compounds via a Three-Component Reaction, 1343

# Pyridin-4(1H)-ones

Efficient Synthesis of 2-(2-Aminophenyl)-2,3-dihydropyridin-4(1*H*)-ones Based on a Cyclization/Ring Cleavage Procedure, 2045

# **Pyrimidines**

One-Pot Synthesis of Pyrimidines via Cyclocondensation of  $\beta$ -Bromovinyl Aldehydes with Amidine Hydrochlorides, 487

# Pyrimidines, 6-(dialkylamino)-5-nitroso-

The 't-Amino Effect' of ortho-Nitroso Amines. Synthesis of 2,6-Diaminoadenine Derivatives from 6-(Dialkylamino)-5-nitrosopyrimidines, 785

## Pyrimidines, tetrahydro-

Efficient Synthesis of Tetrahydropyrimidines and Pyrrolidines by a Multicomponent Reaction of Dialkyl Acetylenedicarboxylates (=Dialkyl But-2-ynedioates), Amines, and Formaldehyde in the Presence of Iodine as a Catalyst, 2087

#### Pyrimidinones, tetrahydro-

Stereoselective Preparation of 3-Amino-2-fluoro Carboxylic Acid Derivatives, and Their Incorporation in Tetrahydropyrimidin-4(1H)-ones, and in Open-Chain and Cyclic  $\beta$ -Peptides, 1908

#### Pvrolvsi

A Novel Synthesis of  $\gamma$ , $\delta$ -Unsaturated Aldehydes from  $\alpha$ -Formyl- $\gamma$ -lactones, 1216

#### α-Pyrone

An Efficient Stereoselective Total Synthesis of Synargentolide A and Its Epimer, 881

## Pyrrole-2,3-dione

On the Reactions of Furan-2,3-diones with Oxindole (=1,3-Dihydro-2*H*-indol-2-one) and *Lawesson* Reagent. Synthesis of New 1,3-Dihydro-2*H*-indol-2-ones, Bis-furanones, and Bis-pyrrolones, 801

#### Pyrrolidine alkaloids

Ophiobolin Sesterterpenoids and Pyrrolidine Alkaloids from the Sponge-Derived Fungus *Aspergillus ustus*, 623

#### **Pyrrolidines**

Efficient Synthesis of Tetrahydropyrimidines and Pyrrolidines by a Multicomponent Reaction of Dialkyl Acetylenedicarboxylates (=Dialkyl But-2-ynedioates), Amines, and Formaldehyde in the Presence of Iodine as a Catalyst, 2087

#### Pyrrolidine-2-thione, 1-methyl-

Reaction of Optically Active Oxiranes with Thiofenchone and 1-Methylpyrrolidine-2-thione: Formation of 1,3-Oxathiolanes and Thiiranes, 773

## 9H-Pyrrolo[1,2-a]indoles

Synthesis of 9,9-Disubstituted 9*H*-Pyrrolo[1,2-*a*]indoles by Hydriodic Acid-Catalyzed Cyclization of 1-[2-(1-Aryl(or methyl)ethenyl)phenyl]-1*H*-pyrroles, 1277

#### 3H-Pyrrolo[2,3-c]pyridin-3-ols

Synthesis of 2,3-Diaryl-3*H*-pyrrolo[2,3-*c*]pyridin-3-ol Derivatives by the Reaction of Aryl(3-isocyanopyridin-4-yl)methanones with Aryl *Grignard* Reagents, 1234

#### Quercetin

On the Ligand-to-Metal Charge-Transfer Photochemistry of the Copper(II) Complexes of Quercetin and Rutin, 293

#### **Quinazolines**

Efficient Synthesis of 2-(2-Aminophenyl)-2,3-dihydropyridin-4(1*H*)-ones Based on a Cyclization/Ring Cleavage Procedure, 2045

## Quinazolin-4(3H)-one

Synthesis of a Novel Series of 2,3-Disubstituted Quinazolin-4(3*H*)-ones as a Product of a Nucleophilic Attack at C(2) of the Corresponding 4*H*-3,1-Benzoxazin-4-one, 389

# Quinazolin-2(1H)-ones, 3,4-dihydro-4-thioxo-

Two-Step Synthesis of 1,3-Disubstituted 3,4-Dihydro-4-thioxoquinazolin-2(1*H*)-ones from 1-Bromo-2-fluorobenzenes. 67

# Quinine

The Woodward Research Institute, Robert Burns Woodward (1917–1979) and Chemistry behind the Glass Door, 923

## Quinoline-3-carboxylates, hexahydro-5-oxo-

Molybdenum- and Tungsten-Based Coordination Polymers as Catalysts for an Efficient and Rapid Synthesis of Hexahydro-5-oxoquinoline-3-carboxylates and 1,4-Dihydropyridine-3,5-dicarboxylates, 885

## Quinoline-2,4-diones, 3-hydroxy-

Reaction of 3-Hydroxyquinoline-2,4-diones with Isocyanates and Thermally Induced Transformation of the Reaction Products, 78

# Quinolines

Synthesis of the Naphthalenone, Dihydroquinoline, and Dihydrofuran Derivatives, 1115

## Quinolinium salts

A Facile Synthesis of Bridged Polycyclic Naphthooxazocine Skeletons: Eight-Membered-Ring Constructions via Tandem Dinucleophilic Addition of Naphthalenols to Quinolinium Salts, 142

#### Ouinones

First Total Synthesis of Prionoid E, A Bioactive Rearranged Secoabietane Diterpene Quinone from Salvia prionitis, 1326

## Quinoxalines, pyrano-pyrido-

Isocyanide-Based Three-Component Synthesis of Pyrano-pyrido-quinoxalines, 1527

#### Rabdonervosins D-F

Three New Diterpenoids from Isodon nervosus, 1320

#### Radical addition

Manganese(III) Acetate Catalyzed Oxidative Radical Additions of  $\alpha$ -Dicarbonyl Compounds to 1- and 2-Phenylcyclohepta-1,3,5-triene, 1431

#### Radical cyclization

Studies on the Radical Cyclization of 3-Oxopropanenitriles and Alkenes with Cerium(IV) Ammonium Nitrate in Ether Solvents, 1335

## Radioactivity

Marie Curie: Pioneering Discoveries and Humanitarianism, 1893

#### Rearrangements

Reaction of 3-Hydroxyquinoline-2,4-diones with Isocyanates and Thermally Induced Transformation of the Reaction Products, 78

1-[(E)-2-Arylethenyl]-2,2-diphenylcyclopropanes: Kinetics and Mechanism of Rearrangement to Cyclopentenes, 1359

The Rearrangement of 2,2-Diphenyl-1-[(E)-2-phenylethenyl]cyclopropane to 3,4,4-Triphenylcyclopent-1-ene: a DFT Analysis, 1389

# Reboulia hemisphaerica

Phenolic Glycosides from the Chinese Liverwort Reboulia hemisphaerica, 1146

#### Rebouosides A-D

Phenolic Glycosides from the Chinese Liverwort Reboulia hemisphaerica, 1146

#### Recyclability

Facile Knoevenagel and Domino Knoevenagel/Michael Reactions Using Gel-Entrapped Base Catalysts, 1943

#### Ribonucleoside 3'-phosphoramidites

Nucleotides. Part LXXIX. New Building Blocks for Photolithographic Syntheses of Oligoribonucleotides, 362

## Riccardin C, 7'-hydroxy-

Stereochemical Investigation of Macrocyclic Bisbibenzyls with a Stereogenic Center at One of the Ethylene Bridges, 2077

#### Ring opening

Synthesis of a Novel Series of 2,3-Disubstituted Quinazolin-4(3*H*)-ones as a Product of a Nucleophilic Attack at C(2) of the Corresponding 4*H*-3,1-Benzoxazin-4-one, 389

## Ring-closing metathesis (RCM)

Asymmetric Total Synthesis of Stagonolide G, 1226

Stereoselective Total Synthesis of Rugulactone, 1290

Total Synthesis of (–)-Cleistenolide, 2215

## Rubasperones D-G

Cytotoxic Naphtho-γ-pyrones from the Mangrove Endophytic Fungus Aspergillus tubingensis (GX1-5E), 1732

# Rubus corchorifolius

Two ent-Kaurane Diterpenoids from Rubus corchorifolius L. f., 1820

## Rugulactone

Stereoselective Total Synthesis of Rugulactone, 1290

## Rutin

On the Ligand-to-Metal Charge-Transfer Photochemistry of the Copper(II) Complexes of Quercetin and Rutin, 293

## Saccharomyces cerevisiae

Stereo-Inversion in the (4R)- $\gamma$ -Decanolactone Synthesis by *Saccharomyces cerevisiae*: (2E,4S)-4-Hydroxy-dec-2-enoic Acid Acts as a Key Intermediate, 2125

#### Salicylaldehydes

A Different Role of Meldrum's Acid in the Biginelli Reaction, 199

Facile Synthesis of Substituted Ethyl 2-(Chloromethyl)-2-hydroxy-2H-1-benzopyran-3-carboxylates, 248

#### Salvia miltiorrhiza

Triterpenoids from the Flowers of Salvia miltiorrhiza, 136

## Salvia prionitis

First Total Synthesis of Prionoid E, A Bioactive Rearranged Secoabietane Diterpene Quinone from Salvia prionitis, 1326

#### Salvia splendens

Splendidins A-C, Three New Clerodane Diterpenoids from Salvia splendens, 417

#### Sampsones A-C

Two Unusual Phenolic Substances and One New Xanthone from Hypericum sampsonii, 686

#### Saponing

Cycloartane Glycosides from Three Species of Astragalus (Fabaceae), 230

Three New Triterpenoid Saponins from Ardisia crenata, 693

Three New Medicagenic Acid Saponins from Polygala micrantha GUILL. & PERR., 914

New Dammarane-Type Saponins from the Rhizomes of Panax japonicus, 2010

Acylated Triterpene Saponins from Atroxima liberica STAPF, 2066

Three New E-Secoursane Triterpenoid Saponins from the Leaves of Ilex dunniana, 2207

Huangqiyenins G-J, Four New 9,10-Secocycloartane (=9,19-Cyclo-9,10-secolanostane) Triterpenoidal Saponins from *Astragalus membranaceus* BUNGE Leaves, 2239

#### Schiglaucyclozic acid

Triterpenoids from the Stems of Schisandra glaucescens, 1778

#### Schiglauzic acid

Triterpenoids from the Stems of Schisandra glaucescens, 1778

# Schintrilactone C

Terpenes from Schisandra sphenanthera, 491

## Schisandra glaucescens

Triterpenoids from the Stems of Schisandra glaucescens, 1778

#### Schisandra sphenanthera

Terpenes from Schisandra sphenanthera, 491

New and Bioactive Sesquiterpenes from Schisandra sphenanthera, 2295

## Schisansphenins A and B

New and Bioactive Sesquiterpenes from Schisandra sphenanthera, 2295

## Scutellaria baicalensis

Synthesis of Ring A-Modified Baicalein Derivatives, 2221

## Scutellaria barbata

Neoclerodane Diterpenoids from the Aerial Part of Scutellaria barbata, 643

## Sea hare

Isolation and Structural Elucidation of Novel Mycosporine-Like Amino Acids as Alarm Cues in the Defensive Ink Secretion of the Sea Hare *Aplysia californica*, 1012

# Secoabietanes

First Total Synthesis of Prionoid E, A Bioactive Rearranged Secoabietane Diterpene Quinone from Salvia prionitis, 1326

# 3,4-Secograyanane diterpenoids

Highly Acylated 3,4-Secograyanane Diterpenoids from the Fruits of *Pieris formosa*, 1283

# Secondary metabolites

Electrochemical Chlorination of Physcion - An Approach to Naturally Occurring Chlorinated Secondary Metabolites of Lichens, 1406

Secondary Metabolites from the Fungus Monascus purpureus and Evaluation of Their Cytotoxic Activity, 1638

## Secorhodomollolides C-H

Highly Acylated 3,4-Secograyanane Diterpenoids from the Fruits of Pieris formosa, 1283

#### Selenourea

Reactions of Imidoyl Isoselenocyanates with Aromatic 2-Amino N-Heterocycles and 1-Methyl-1H-imidazole, 1575

## Senecio dianthus

New Eremophilenolides from Senecio dianthus, 474

#### Sesquiterpenes

Eremophilenolide-Type Sesquiterpenes from Hertia intermedia, 163

Two New Sesquiterpenes from Inula salsoloides and Their Inhibitory Activities against NO Production, 306

Terpenoids from the Chinese Liverwort Chiloscyphus polyanthus, 534

Secondary Metabolites from Magnolia kachirachirai, 703 Novel Sesquiterpenes from the Mycelial Cultures of Dichomitus squalens, 868

Three New Sesquiterpene Pyridine Alkaloids from Euonymus fortunei, 1139

## Sesquiterpenoids

New Patchoulol-Type Sesquiterpenoids from Pogostemon cablin, 218

Sesquiterpenoids from Fusarium sp., an Endophytic Fungus in Agriminia pilosa, 1254

Sesquiterpenoids from the Aerial Parts of Inula japonica, 1269

Eremophilane-Type Sesquiterpenoids from the Fermentation Broth of Plant Endophytic Fungus Pestalotionsis photiniae Isolated from the Chinese Podocarpaceae Plant Podocarpus macrophyllus, 1463

Two New Cryptoporic Acid Derivatives from the Fruiting Bodies of Cryptoporus sinensis, 2020

#### Sesterterpenoids

Ophiobolin Sesterterpenoids and Pyrrolidine Alkaloids from the Sponge-Derived Fungus Aspergillus ustus, 623

Silica Nanoparticles as a Highly Efficient Catalyst for the One-Pot Synthesis of 2-Hydroxyacetamide Derivatives from Isocyanides and Electron-Poor Aromatic Aldehydes, 611

Preparation of Silica Nanoparticles from Organic Laboratory Waste of Silica Gel  $HF_{254}$  and Their Use as a Highly Efficient Catalyst for the One-Pot Synthesis of 2,3-Dihydro-1H-isoindolone Derivatives, 1831

#### Silver complexes

Novel Benzyl- or 4-Cyanobenzyl-Substituted N-Heterocyclic (Bromo)(carbene)silver(I) and (Carbene)-(chloro)gold(I) Complexes: Synthesis and Preliminary Cytotoxicity Studies, 1551

#### Silvl enol ethers

Efficient Synthesis of 2-(2-Aminophenyl)-2,3-dihydropyridin-4(1H)-ones Based on a Cyclization/Ring Cleavage Procedure, 2045

#### Simplactones A and B

Asymmetric Synthesis of Simplactones A and B, 1481

## Sisalasaponins C and D

Two New Steroidal Saponins from the Fresh Leaves of Agave sisalana, 1351

## Soft corals

Asterolaurins G-J, New Xenicane Diterpenoids from the Taiwanese Soft Coral Asterospicularia laurae, 273

# Solid-phase peptide synthesis

Preparation of the  $\beta^2$ -Homoselenocysteine Derivatives Fmoc-(S)- $\beta^2$ hSec(PMB)-OH and Boc-(S)β2hSec(PMB)-OH for Solution and Solid-Phase Peptide Synthesis, 1

Preparation of the  $\beta^2$ -Homoselenocysteine Derivatives Fmoc-(S)- $\beta^2$ hSec(PMB)-OH and Boc-(S)- $\beta^2$ hSec(PMB)-OH for Solution and Solid-Phase Peptide Synthesis, 1

## Sonogashira coupling

Palladium Nanoparticles on Graphite Oxide as Catalyst for Suzuki-Miyaura, Mizoroki-Heck, and Sonogashira Reactions, 966

Tandem Palladium/Charcoal-Copper(I) Iodide (Pd/C-CuI) Catalyzed Sonogashira Coupling and Intramolecular Cyclization from 2-Bromonicotinic Acid (=2-Bromopyridine-3-carboxylic Acid) and Ethynylarenes to 4-Azaphthalides (=Furo[3,4-b]pyridin-5(7H)-ones) and 5-Azaisocoumarins (=5H-Pyrano[4,3-t)-ones) b]pyridin-5-ones), 1792

## Sorption dynamics

Comparison of Dinitrogen, Methane, Carbon Monoxide, and Carbon Dioxide Mass-Transport Dynamics in Carbon and Zeolite Molecular Sieves, 206

#### Sovasapogenol B

Oleanane-Type Triterpenoids from the Endophytic Fungus *Pestalotiopsis clavispora* Isolated from the Chinese Mangrove Plant *Bruguiera sexangula*, 1041

#### **Sphingolipids**

Efficient Synthesis of a Styryl Analogue of (2S,3R,4E)-N²-Octadecanoyl-4-tetradecasphingenine via Cross-Metathesis Reaction, 650

#### Spin trapping

Spin Trapping of Radical Intermediates Generated by the Oxidation of Substituted 4-Methylphenols, 1260 Spiro compounds

Organic Reaction in Water: A Highly Efficient and Environmentally Friendly Synthesis of Spiro Compounds Catalyzed by L-Proline, 824

#### Spiro[acenaphthylene-1(2H),4'-[4H-indeno[1,2-b]pyridines]

A New Four-Component Reaction for the Synthesis of Spiro[4*H*-indeno[1,2-*b*]pyridine-4,3'-[3*H*]indoles], 1628

# Spiro[4*H*-indeno[1,2-*b*]pyridine-4,3'-[3*H*]indoles]

A New Four-Component Reaction for the Synthesis of Spiro[4*H*-indeno[1,2-*b*]pyridine-4,3'-[3*H*]indoles], 1628

## Spiro[indeno[2,1-b]quinoxaline-11,4'-pyran]-2'-amine derivatives

Diversity-Oriented Synthesis of Novel 2'-Aminospiro[11H-indeno[1,2-b]quinoxaline-11,4'-[4H]pyran] Derivatives via a One-Pot Four-Component Reaction, 2289

#### Spiro[indoline-3,6'-[1,3]thiazin]-2-ones, 2'-thioxo-2',3'-dihydro-

A Novel, One-Pot Four-Component Route to 2'-Thioxo-2',3'-dihydrospiro[indole-3,6'-[1,3]thiazin]-2-one Derivatives, 1315

## Spiro[isobenzofuran-1,2'-pyrrole] derivatives

Efficient and Chemoselective Methods for the Synthesis of Some Isobenzofuran and Spiro[isobenzofuran-1,2'-pyrrole] Derivatives, 410

#### Spirostanol saponin

Two New Steroidal Saponins from the Fresh Leaves of Agave sisalana, 1351

# Splendidins A - C

Splendidins A-C, Three New Clerodane Diterpenoids from Salvia splendens, 417

#### Stagonolide G

Asymmetric Total Synthesis of Stagonolide G, 1226

#### Stereo-inversion

Stereo-Inversion in the (4R)- $\gamma$ -Decanolactone Synthesis by *Saccharomyces cerevisiae*: (2E,4S)-4-Hydroxy-dec-2-enoic Acid Acts as a Key Intermediate, 2125

## Stereoselective synthesis

Stereocontrolled Synthesis of Unnatural Tetrapeptides Containing L-Valine Units. Part 3, 127

Total Synthesis of Leiocarpin C and (+)-Goniodiol via an Olefin Cross-Metathesis Protocol, 1102

First Stereoselective Total Synthesis of Gallicynoic Acids G and H, 1246

Stereoselective Total Synthesis of Rugulactone, 1290

Asymmetric Synthesis of Simplactones A and B, 1481

Stereoselective Preparation of 3-Amino-2-fluoro Carboxylic Acid Derivatives, and Their Incorporation in Tetrahydropyrimidin-4(1H)-ones, and in Open-Chain and Cyclic  $\beta$ -Peptides, 1908

## Steroidal glycosides

Polyhydroxypregnane Glycosides from the Roots of Cynanchum otophyllum, 2272

## Steroids

Chemical Constituents from Fruits and Stem Bark of Celtis australis L., 464

The Woodward Research Institute, Robert Burns Woodward (1917–1979) and Chemistry behind the Glass Door, 923

Three New Steroidal Glycosides from the Roots of Cynanchum auriculatum, 1296

Synthesis and Mechanistic Study of Steroidal Oxime Ethers, 2256

# Sterols

Polyoxygenated Sterols from Freshwater Clam, 892

## Stilbene

Photo-Cross-Linking of Polymethacrylates with Stilbene Chromophores in the Side Chains, 2111

#### Streptomyces species

Two New 23-Membered Macrolactones from a Terrestrial Bacterium, *Streptomyces* sp. IMBJ01, 1448 Streptomycindole, an Indole Alkaloid from a Marine *Streptomyces* sp. DA22 Associated with South China Sea Sponge *Craniella australiensis*, 1838

#### Streptomycindole

Streptomycindole, an Indole Alkaloid from a Marine Streptomyces sp. DA22 Associated with South China Sea Sponge Craniella australiensis, 1838

#### Stress metabolites

A New Phenolic Diglycoside Produced in Response to Copper Toxicity and a New Flavan Dimer from the Leaves of *Viburnum ichangense* (HEMSL.) REHD., 1677

#### Styrenes

Synthesis of 9,9-Disubstituted 9*H*-Pyrrolo[1,2-*a*]indoles by Hydriodic Acid-Catalyzed Cyclization of 1-[2-(1-Aryl(or methyl)ethenyl)phenyl]-1*H*-pyrroles, 1277

Efficient Synthesis of (3*E*)-3-[Amino(aryl)methylidene]chromane-2,4-diones (=(3*E*)-3-[Amino(aryl)methylene]-2*H*-1-benzopyran-2,4(3*H*)-diones) *via* a Three-Component Reaction, 1440

#### Suberites domuncula

Ophiobolin Sesterterpenoids and Pyrrolidine Alkaloids from the Sponge-Derived Fungus Aspergillus ustus, 623

## Sulfones

Synthesis of Allyl Aryl Sulfone Derivatives from Baylis-Hillman Acetates in Water, 875

Indium(III) Chloride-Catalyzed Conversion of {[(Benzyloxy)carbonyl]amino}-Substituted Sulfones with 2-[(Trimethylsilyl)oxy]furan: A Facile Access to γ-Butenolactone Derivatives Containing a Protected Amino Group, 1048

#### Sulfonium salts

Synthesis of  $\beta$ -Hydroxy  $\alpha$ -Sulfanyl Esters by Using Nanocrystalline Magnesium Oxide, 1533

#### Sulfoxides

Synthesis of 2-Aryl-2,3-dihydro-3-sulfanyl-1*H*-isoindol-1-ones by *Pummerer*-Type Cyclization of *N*-Aryl-2-(sulfinylmethyl)benzamides, 2002

#### Sulfuranyl radicals

Photocycloaddition of 4-(Alk-1-ynyl)-Substituted Coumarins and Thiocoumarins to 2,3-Dimethylbuta-1,3-diene, 1030

#### Sultams

Diastereoselective Alkyl *Grignard* 1,4-Additions to *para*-Substituted (2*R*)-*N*-Cinnamoylbornane-10,2-sultam Derivatives: Influence of N-Atom Pyramidalization, 2141

#### Suzuki coupling

Syntheses of Prekinamycin and a Tetracyclic Quinone from Common Synthetic Intermediates, 578

## Suzuki-Miyaura reaction

Palladium Nanoparticles on Graphite Oxide as Catalyst for Suzuki-Miyaura, Mizoroki-Heck, and Sonogashira Reactions, 966

## Swern oxidation

An Efficient Stereoselective Approach for the Synthesis of (+)-(4S,5S)-Muricatacin, 669

## Synargentolide A

An Efficient Stereoselective Total Synthesis of Synargentolide A and Its Epimer, 881

## Tandem reactions

A Facile Synthesis of Bridged Polycyclic Naphthooxazocine Skeletons: Eight-Membered-Ring Constructions via Tandem Dinucleophilic Addition of Naphthalenols to Quinolinium Salts, 142

Rapid and Facile Access to Indeno[1,2-d]imidazoles via a Tandem Addition-Cyclization Reaction, 1802

## Tatsienenseines A - C

Diterpenoid Alkaloids from Delphinium tatsienense, 853

## Terpenes

Terpenes from Schisandra sphenanthera, 491

## Tetraazamacrocycles

A Novel Briggs-Rauscher Oscillation with a Macrocyclic Nickel(II) Complex as Catalyst and Pentane-2,4-dione as the Substrate, 903

# $(2S,\!3R,\!4E)\text{-}4\text{-}\text{Tetradecasphingenine},\,2\text{-}N\text{-}\text{octadecanoyl-}$

Efficient Synthesis of a Styryl Analogue of (2S,3R,4E)-N<sup>2</sup>-Octadecanoyl-4-tetradecasphingenine via Cross-Metathesis Reaction. 650

## Tetrapeptides

Stereocontrolled Synthesis of Unnatural Tetrapeptides Containing L-Valine Units. Part 3, 127

#### Tetrathiafulvalenes

Acetylenic Tetrathiafulvalene Scaffolds – Intramolecular Charge-Transfer Molecules, 1743

#### Thermogravimetry

A New Germanium Complex Containing Chelating Pyridinecarboxylate Ligands: *cis*-Dihydroxybis(pyridine-2-carboxylato-κ*N*<sup>1</sup>,κ*O*<sup>2</sup>)germanium Hydrate (1:2) (*cis*-[Ge(pyca)<sub>2</sub>(OH)<sub>2</sub>] · 2 H<sub>2</sub>O), 1786

#### Thiacrown ethers

A New Synthesis of Fused Oxa- and Thiacrown Ethers-Thiophene/Furan Oligomers, 18

#### 1.2.4-Thiadiazoles

An Unexpected Result of the Reaction of Benzothioamide Derivatives with 2-Aryl-2-bromoacetonitriles, 2039

#### 1,3-Thiazole, 2-amino-

Reactions of Imidoyl Isoselenocyanates with Aromatic 2-Amino N-Heterocycles and 1-Methyl-1*H*-imidazole, 1575

#### Thiazoles, 4-amino-

An Unexpected Result of the Reaction of Benzothioamide Derivatives with 2-Aryl-2-bromoacetonitriles, 2039

#### **Thiiranes**

Reaction of Optically Active Oxiranes with Thiofenchone and 1-Methylpyrrolidine-2-thione: Formation of 1,3-Oxathiolanes and Thiiranes, 773

#### Thioamides

An Unexpected Result of the Reaction of Benzothioamide Derivatives with 2-Aryl-2-bromoacetonitriles, 2039

#### Thiocoumarins

Photocycloaddition of 4-(Alk-1-ynyl)-Substituted Coumarins and Thiocoumarins to 2,3-Dimethylbuta-1,3-diene. 1030

#### Thiofenchone

Reaction of Optically Active Oxiranes with Thiofenchone and 1-Methylpyrrolidine-2-thione: Formation of 1,3-Oxathiolanes and Thiiranes, 773

#### Thiols

One-Pot Syntheses of 2-(2-Sulfanyl-4*H*-3,1-benzothiazin-4-yl)acetic Acid Derivatives *via* Reactions of 3-(2-Isothiocyanatophenyl)prop-2-enoic Acid Derivatives with Thiols or Sodium Sulfide, 111

# Thiophene/furan oligomers

A New Synthesis of Fused Oxa- and Thiacrown Ethers-Thiophene/Furan Oligomers, 18

# Tilak annulation

Synthesis of 4,6-Dimethyldibenzothiophene and 1,2,3,4-Tetrahydro-4,6-dimethyldibenzothiophene *via Tilak* Annulation, 1754

## Tin halide insertion

Tin(II) Halide Insertion or Halogen Exchange in the Reactions of Dihaloplatinum(II) Complexes with Tin(II) Halide, 1618

# Tomentosides I and II

Two Glycosides and Other Constituents from *Anemone tomentosa* Roots, 711

## Toona ciliata var. ciliata

Polyynes from *Toona ciliata* var. *ciliata* and Related Cytotoxic Activity, 376

## Toona ciliata var. pubescens

Three New Neolignans and One New Phenylpropanoid from the Leaves and Stems of *Toona ciliata* var. pubescens, 1685

# Torricellia tiliifolia

Two New Constituents from Torricellia tiliifolia Stem Barks, 327

## Torricelline

Two New Constituents from Torricellia tiliifolia Stem Barks, 327

#### Torrilliolide

Two New Constituents from Torricellia tiliifolia Stem Barks, 327

#### Transesterification

Bismuth(III) Chloride-Catalyzed Highly Efficient Transesterification of  $\beta$ -Keto Esters, 119

#### Transient spectra

On the Ligand-to-Metal Charge-Transfer Photochemistry of the Copper(II) Complexes of Quercetin and Rutin, 293

#### Transmetallation

Novel Benzyl- or 4-Cyanobenzyl-Substituted N-Heterocyclic (Bromo)(carbene)silver(I) and (Carbene)-(chloro)gold(I) Complexes: Synthesis and Preliminary Cytotoxicity Studies, 1551

#### 1,2,3-Triazole derivatives

An Efficient Synthesis of a (-)-Physostigmine's Library for Identifying Potential Anti-*Alzheimer*'s Agents, 1496

#### Trichosanthes kirilowii

A New Peroxy-multiflorane Triterpene Ester from the Processed Seeds of Trichosanthes kirilowii, 1881

#### Trimethylsilyl triflate

On Novel Fluorine Reagents in Preparative Organic Chemistry, 947

#### Triterpene glycosides

New Triterpenoid and Ergostane Glycosides from the Leaves of Hydrocotyle umbellata L., 1850

## Triterpene lactones

Three New Peroxy Triterpene Lactones from Pseudolarix kaempferi, 1697

#### Triterpenes

Three New Triterpenes from *Xylarialean* sp. A45, an Endophytic Fungus from *Annona squamosa* L., 301 New Triterpenoid and Ergostane Glycosides from the Leaves of *Hydrocotyle umbellata* L., 1850

A New Peroxy-multiflorane Triterpene Ester from the Processed Seeds of Trichosanthes kirilowii, 1881

Euphane Triterpenes from the Bark of Broussonetia papyrifera, 2061

Isoprenoids and Flavonoids with Antimicrobial Activity from Ficus conraui Warburg (Moraceae), 2231

## Triterpenoid saponins

Three New Triterpenoid Saponins from Ardisia crenata, 693

Acylated Triterpene Saponins from Atroxima liberica STAPF, 2066

Three New E-Secoursane Triterpenoid Saponins from the Leaves of Ilex dunniana, 2207

Huangqiyenins G-J, Four New 9,10-Secocycloartane (=9,19-Cyclo-9,10-secolanostane) Triterpenoidal Saponins from *Astragalus membranaceus* BUNGE Leaves, 2239

#### **Triterpenoids**

Triterpenoids from the Flowers of Salvia miltiorrhiza, 136

Chemical Constituents from Fruits and Stem Bark of Celtis australis L., 464

Dammarane Triterpenes from Gardenia aubryi VIEILL., 656

Oleanane-Type Triterpenoids from the Endophytic Fungus *Pestalotiopsis clavispora* Isolated from the Chinese Mangrove Plant *Bruguiera sexangula*, 1041

Triterpenoids from the Stems of Schisandra glaucescens, 1778

New Dammarane-Type Saponins from the Rhizomes of Panax japonicus, 2010

Oleanane-Type Triterpenoids from Glochidion assamicum, 2264

## α-Tropolone

Synthesis of Dialkyl 2-(Alkylamino)-4,9-dihydro-9-oxocyclohepta[b]pyran-3,4-dicarboxylates, 371

## **Tungsten complexes**

Molybdenum- and Tungsten-Based Coordination Polymers as Catalysts for an Efficient and Rapid Synthesis of Hexahydro-5-oxoquinoline-3-carboxylates and 1,4-Dihydropyridine-3,5-dicarboxylates, 885

## Umbellatosides

New Triterpenoid and Ergostane Glycosides from the Leaves of Hydrocotyle umbellata L., 1850

## Uridine 3'-thiophosphates

Stepwise Mechanism of Hydroxide Ion Catalyzed Cyclization of Uridine 3'-Thiophosphates, 1563

## $(3\alpha)$ -Urs-12-ene-3,23-diol

Triterpenoids from the Flowers of Salvia miltiorrhiza, 136

#### Valacyclovir hydrochloride

A Concise Route to Valacyclovir Hydrochloride, 592

#### Valine

Stereocontrolled Synthesis of Unnatural Tetrapeptides Containing L-Valine Units. Part 3, 127

A Concise Route to Valacyclovir Hydrochloride, 592

## Verbenol epoxide

Reactions of Verbenol Epoxide with Aromatic Aldehydes Containing Hydroxy or Methoxy Groups in the Presence of Montmorillonite Clay, 502

#### Versicotides A and B

Two New Cyclic Pentapeptides from the Marine-Derived Fungus Aspergillus versicolor, 1065

## Viburnum ichangense

A New Phenolic Diglycoside Produced in Response to Copper Toxicity and a New Flavan Dimer from the Leaves of *Viburnum ichangense* (Hemsl.) Rehd., 1677

#### Vilsmeier-Haack acetylation

Kinetics and Mechanism of Certain Acetylation Reactions with Acetamide/Oxychloride in Acetonitrile under Vilsmeier–Haack Conditions, 2168

#### Viologer

Novel Compounds with a Viologen Skeleton and N-Heterocycles on the Peripheries: Electrochemical and Spectroscopic Properties, 1091

#### Wacker oxidation

First Total Synthesis of Prionoid E, A Bioactive Rearranged Secoabietane Diterpene Quinone from Salvia prionitis, 1326

## Water hyacinth

New Phenylphenalene Derivatives from Water Hyacinth (Eichhornia crassipes), 61

## Wedelia trilobata

ent-Kaurane Diterpenes and Further Constituents from Wedelia trilobata, 817

#### Wedelidins A and B

ent-Kaurane Diterpenes and Further Constituents from Wedelia trilobata, 817

#### Wittig homologation

An Efficient Stereoselective Approach for the Synthesis of (+)-(4S,5S)-Muricatacin, 669

## Wittig reaction

Total Synthesis of (-)-Cleistenolide, 2215

#### Women in science

Marie Curie: Pioneering Discoveries and Humanitarianism, 1893

## Woodward Research Institute

The Woodward Research Institute, Robert Burns Woodward (1917–1979) and Chemistry behind the Glass Door, 923

## **Xanthones**

Two Unusual Xanthones from the Bark of Garcinia xanthochymus, 662

Two Unusual Phenolic Substances and One New Xanthone from Hypericum sampsonii, 686

## Xenicane diterpenoids

Asterolaurins G-J, New Xenicane Diterpenoids from the Taiwanese Soft Coral *Asterospicularia laurae*, 273 *Xestosponeia testudinaria* 

Xestospongienols A-L, Brominated Acetylenic Acids from the Chinese Marine Sponge Xestospongia testudinaria, 1600

## Xestospongienols A-L

Xestospongienols A-L, Brominated Acetylenic Acids from the Chinese Marine Sponge Xestospongia testudinaria. 1600

# X-Ray crystallography

Reactions with 4-Hydroxy-2-methylbutananilides: Unexpected Formation of a Cyclopropanecarboxamide, 28 Terpenoids from the Chinese Liverwort *Chiloscyphus polyanthus*, 534

Silica Nanoparticles as a Highly Efficient Catalyst for the One-Pot Synthesis of 2-Hydroxyacetamide Derivatives from Isocyanides and Electron-Poor Aromatic Aldehydes, 611

Two Unusual Phenolic Substances and One New Xanthone from Hypericum sampsonii, 686

Synthesis and Characterization of Enantiomerically Pure cis- and trans-3-Fluoro-2,4-dioxa-9-aza-3-phosphadecalin 3-Oxides as Acetylcholine Mimetics and Inhibitors of Acetylcholinesterase, 746

Reaction of Optically Active Oxiranes with Thiofenchone and 1-Methylpyrrolidine-2-thione: Formation of 1,3-Oxathiolanes and Thiiranes, 773

ent-Kaurane Diterpenes and Further Constituents from Wedelia trilobata, 817

Synthesis of Benzimidazoles by Phosphine-Mediated Reductive Cyclisation of ortho-Nitro-anilides, 977

Synthesis of Poly-Aib Oligopeptides and Aib-Containing Peptides *via* the 'Azirine/Oxazolone Method', and Their Crystal Structures, 993

One-Pot, Four-Component Synthesis of Fully Substituted 1,3,4-Oxadiazole Derivatives from (Isocyanoimino)triphenylphosphorane, a Primary Amine, an Aromatic Carboxylic Acid, and Chloroacetone, 1024 Oleanane-Type Triterpenoids from the Endophytic Fungus *Pestalotiopsis clavispora* Isolated from the Chinese Mangrove Plant *Bruguiera sexangula*, 1041

Beilschmiedic Acids F and G, Further Endiandric Acid Derivatives from *Beilschmiedia anacardioides*, 1071 Synthesis of the Naphthalenone, Dihydroquinoline, and Dihydrofuran Derivatives, 1115

Oligonucleotide Analogues with Integrated Bases and Backbone. Part 28. Hydrazide- and Amide-Linked Analogues. 2. Di-, Tetra-, Octa-, and Decamers: Synthesis and Association, 1153

Introduction of Adjacent Oxygen-Functionalities in Dimethyl Heptalenedicarboxylates, 1194

Sesquiterpenoids from the Aerial Parts of Inula japonica, 1269

1-[(E)-2-Arylethenyl]-2,2-diphenylcyclopropanes: Kinetics and Mechanism of Rearrangement to Cyclopentenes, 1359

Reactions of Imidoyl Isoselenocyanates with Aromatic 2-Amino N-Heterocycles and 1-Methyl-1*H*-imidazole, 1575

Synthesis of 4,6-Dimethyldibenzothiophene and 1,2,3,4-Tetrahydro-4,6-dimethyldibenzothiophene via Tilak Annulation, 1754

Synthesis and Selected Reactions of Hydrazides Containing an Imidazole Moiety, 1764

Triterpenoids from the Stems of Schisandra glaucescens, 1778

A New Germanium Complex Containing Chelating Pyridinecarboxylate Ligands: *cis*-Dihydroxybis(pyridine-2-carboxylato-κ*N*<sup>1</sup>,κ*O*<sup>2</sup>)germanium Hydrate (1:2) (*cis*-[Ge(pyca)<sub>2</sub>(OH)<sub>2</sub>]·2 H<sub>2</sub>O), 1786

Two New Meroterpenes from the Mangrove Endophytic Fungus Aspergillus sp. 085241B, 1875

Efficient Synthesis of 2-(2-Aminophenyl)-2,3-dihydropyridin-4(1*H*)-ones Based on a Cyclization/Ring Cleavage Procedure, 2045

Stereochemical Investigation of Macrocyclic Bisbibenzyls with a Stereogenic Center at One of the Ethylene Bridges, 2077

Diastereoselective Alkyl *Grignard* 1,4-Additions to *para*-Substituted (2*R*)-*N*-Cinnamoylbornane-10,2-sultam Derivatives: Influence of N-Atom Pyramidalization, 2141

Three New E-Secoursane Triterpenoid Saponins from the Leaves of Ilex dunniana, 2207

Synthesis, Characterization, X-Ray Structural Analysis, and Iodination Ability of Benzyl(triphenyl)phosphonium Dichloroiodate, 2248

## Xylaria species

New Cytochalasins from the Marine-Derived Fungus Xylaria sp. SCSIO 156, 1671

## Xylariacins A-C

Three New Triterpenes from *Xylarialean* sp. A45, an Endophytic Fungus from *Annona squamosa* L., 301 *Xylarialean* sp. A45

Three New Triterpenes from *Xylarialean* sp. A45, an Endophytic Fungus from *Annona squamosa* L., 301 *Xylocarpus moluccensis* 

Godavarin K: a New Limonoid with an Oxygen Bridge between C(1) and C(29) from the Godavari Mangrove Xylocarpus moluccensis, 1651

## Yamaguchi lactonization

An Iterative Acetylene-Epoxide Coupling Strategy for the Total Synthesis of Aspinolide A, 224

## Yesanchinosides R<sub>1</sub> and R<sub>2</sub>

New Dammarane-Type Saponins from the Rhizomes of Panax japonicus, 2010

#### Ylides

A Novel, One-Pot Four-Component Route to 2'-Thioxo-2',3'-dihydrospiro[indole-3,6'-[1,3]thiazin]-2-one Derivatives, 1315

# Ypsilactosides A and B

Ypsilactosides A and B, Two New C22-Steroidal Lactone Glycosides from Ypsilandra thibetica, 92

## Ypsilandra thibetica

Ypsilactosides A and B, Two New  $C_{22}$ -Steroidal Lactone Glycosides from Ypsilandra thibetica, 92

# Yunnanenseines A-C

Diterpenoid Alkaloids from Delphinium yunnanense, 254

# Zinc catalyst

Allylation of N-Benzoylhydrazones (= N-Alkylidene-Substituted Benzohydrazides) by Treatment with Allyl Bromide in the Presence of Zinc in Aqueous Ammonium Chloride Solution, 1477

#### Zwitterions

Efficient Synthesis of [1,3]Oxazino[3,2-f]phenanthridine Derivatives by a Novel 1,4-Dipolar Cycloaddition Involving a Phenanthridine–Dimethyl Acetylenedicarboxylate Zwitterion and Aromatic Aldehydes, 169