

SUBJECT INDEX TO VOLUME 2

- 2-Amino-2'-hydroxy-1, 1'-binaphthyl (NOBIN)499
 chemistry of499
- 2-Amino-6-benzyloxy-purine (O⁶-benzylguanine, O⁶-BG)226
 synthesis of226
- 1- Aminodienes462
 facial selectivity of462
 theoretical design of468
 experimental validation of468
 chiral auxiliary for cycloaddition of468
 theoretical evaluation of468
- β -, γ -/ δ -Aminophosphonic derivatives455
 in racemic series455
- 2-Aminopurin-6-yltrimethylammonium chloride.....220
- Aglycon delivery.....199
 via acyl groups199
 via aliphatic dicarboxylic esters.....201
 via ether199
 via lanthanide triflate204
 via rigid spacer of acyl-type.....199
- AGT inhibitors216
 synthesis of216
- Alkaloids.....316
 as sources of chirality in stereoselective synthesis
 of isoquinolines/ β -carbolines316
- Alkenes281, 393
 by dye-sensitized intrazeolite photooxygenation281
 intramolecular coiodination of393
 intrazeolite asymmetric photooxyge-nation of287
 oxyfunctionalization of281
 reaction with internal oxygenated nucleophiles.....393
- Alkyl addition520
 to aldehyde/ α , β -unsaturated ketone520
- O⁶-Alkylguanine-DNA alkyltransferase (AGT)215
 in cancer chemotherapy215
- O⁶-Alkylguanine-DNA alkyltransferase (AGT)
 inhibitors215
 in cancer chemotherapy215
- Alkylperoxybenziodoxoles124
 in organic synthesis121
- Allylic rearrangement228
 of guanine228
- Π -Allylpalladium chemistry22
- Amides387
 reactions of387
- Amidobenziodoxoles127
 in organic synthesis121
- Amines378
 reactions of378
- Amino acids.....317
 as sources of chirality in stereoselective synthesis
 of isoquinolines/ β -carbolines317
- Aminophosphonic derivatives453
 novel strategy towards453
 based on Diels-Alder cycloaddition453
 experimental/theoretical approaches for453
- Δ^2 - Δ^4 -Androstenes9
- Anomeric *O*-alkylation191
 β -mannosidic linkage role of175
- Anomeric orthoesters207
 reductive cleavage of207
- C-8 Aryl amino adenosine analogues97
 reactions leading to97
- Aryl dihalides26
 three-component coupling polymerization of26
- Aryl halides86
 reactions of86, 96
 with C-8 amino nucleoside96
 with protected nucleosides86
- Asymmetric catalysis520
 with chiral ligands derived from NOBIN520
- Asymmetric dihydroxylation16
 of 5 α -ergost-2,22-dien-6-one16
- Asymmetric synthesis462
 of β -/ γ -aminophosphonic derivatives462
- Azidobenziodoxoles125
 in organic synthesis121
- Baeyer-Villiger oxidation113
 α , α -disubstituted α -acetoxy esters by113
 α , α -disubstituted α -hydroxy acids by113
- Benziodazoles127
 in organic synthesis121
- Benziodoxole123
 sulfonate derivatives of123
- Benzylidene acetal195
 aglycon delivery *via*195
- 1, 1'-Bi-2-naphthol (BINOL, 1)499
- Biginelli reaction432
- Bis*-cyclic oxoosmium(VI) diesters15
 formation of15
 structure of15
- Bisallene26
 three-component coupling polymerization of26
- Cancer chemotherapy215
 O⁶-alkylguanine-DNA alkyltransferase (AGT)
 inhibitors in215
- Carbenoids377
 from diazoalkanes377
 from diazocarbonyls377
 from diazo compounds377
 general reactions of377
 reactions of organic nitrogen compounds with377
- Carbodiimides382
 reactions of382
- Carbohydrate microarrays62
- Carbohydrates68
 as TASP templates68
- Carbohydrate scaffolds153, 167
 for production of bioactive compounds153
 in polycyclic structures167
- β -Carbolines302
 alkaloids as sources of chirality in
 stereoselective synthesis of316
 amino acids as sources of chirality in
 stereoselective synthesis of317
 carbohydrates as sources of chirality in
 stereoselective synthesis of302
 isoprenoids (terpenoids) as sources of
 chirality in stereoselective synthesis of306

- natural hydroxyacids as sources of chirality in stereoselective synthesis of.....312
- β -Carboline derivatives.....301
- alkaloids as sources of chirality in stereoselective synthesis of.....316
- amino acids as sources of chirality in stereoselective synthesis of.....317
- as sources of chirality in stereoselective synthesis of isoquinolines/ β -carbolines.....302
- carbohydrates as.....302
- carbohydrates as sources of chirality in stereoselective synthesis of.....302
- isoprenoids (terpenoids) as sources of chirality in stereoselective synthesis of.....306
- natural hydroxyacids as sources of chirality as sources of chirality in stereoselective synthesis of.....312
- stereoselective synthesis of.....301
- use of chiral auxiliaries for.....301
- Carbonyl methylenation.....231
- and 1,1-borio-metallic reagents.....256
- and 9-methyl-9-BBN.....255
- and dimesitylmethylborane.....256
- boron Wittig reaction for.....255
- effects of Lombardo's variation.....253
- in organic synthesis.....231
- organolithium reagents for.....253
- reagents for.....231
- role of instant ylids.....234
- role of Horner reaction.....237
- role of Horner-Wadsworth-Emmons reaction.....237
- role of Julia-Lythgoe olefination.....244
- role of lithiated ylids.....235
- role of metallated *bis*(dimethylamino) phosphonates.....238
- role of metallated sulfinamides.....242
- role of metallated sulfonates.....246
- role of metallated sulfoxides.....242
- role of *p*-(α -lithioalkyl)phosphinothioic amides.....238
- role of Peterson olefination.....240
- role of solid-supported Wittig reaction.....233
- role of Wittig reaction.....233
- silicon-based methylenation systems for.....240
- sulfur-based methylenation systems for.....242
- Takai's methodology for.....251
- use of Grubbs reagents.....247
- use of molybdenum metallocarbenes.....255
- use of Nysted reagent.....250
- use of organometallic methylenation reagents.....246
- use of Petasis reagent.....248
- use of Takai lombardo reagents.....251
- use of Takeda reagent.....249
- use of Tebbe reagent.....246
- use of titanium-based methylenation reagents.....246
- use of tungsten metallocarbenes.....254
- zinc-based methylenation systems for.....250
- Carbon-carbon bond-forming polyaddition.....32
- of bifunctional vinyloxirane.....32
- Carbon-heteroatom (C-N, C-O) bond-forming polymerization.....24, 34
- Carretero's synthesis.....46
- of (-)-swainsonine.....39
- Cation - π interactions.....283
- Chemoselective ligation.....59
- applications of.....59
- carbohydrate-based.....59
- role of carbonyl electrophiles.....60
- role of cell-surface engineering.....69
- role of cycloadditions.....59, 76
- role of electrophile-nucleophile pairs.....60
- role of glycopeptides.....71
- role of *in vitro* glycorandomization.....76
- role of microarray technology.....63
- role of oligosaccharide analogs.....71
- role of Staudinger ligation.....62, 75
- role of TASP templates.....68
- role of thiol nucleophiles.....61
- Chiral 1-aminodienes.....470
- synthesis of.....470
- Chiral alkenes.....293
- diastereoselectivity in.....293, 295
- intrazeolite photooxygenation of.....293
- 6-Chloroguanine.....219
- synthesis of.....219
- Cholesta-5, 7-dien-3 β -yl acetate.....5
- dihydroxylation of.....5
- in synthesis of natural epoxy sterol.....5
- Δ^5 -/ Δ^7 -/ Δ^8 (14)-Cholestenes.....10
- Claisen-schmidt condensation.....419
- Combinatorial synthesis.....153
- monosaccharide based scaffolds for.....153
- Copolymerization.....35
- of allene with carbon monoxide.....35
- Cyanobenziodoxoles.....127
- in organic synthesis.....121
- Cyclin-dependent kinases 1/2.....217
- against hepatitis B virus.....217
- against herpes viruses.....217
- inhibitors of.....217
- Cyclization.....205
- of open chain precursor.....205
- Cyclization reactions.....348
- of benzimidazoles.....359
- of benzofurans.....356
- of benzothiazoles.....359
- of benzoxazoles.....359
- of chromenes.....369
- of coumarins.....368
- of five membered rings.....350
- of furanones.....350
- of fused imidazole.....358
- of fused thiazoles.....358
- of fused triazoles.....359
- of imidazoles.....353
- of indoles.....357
- of β -lactams.....349
- of oxazoles.....350
- of polyannular five membered rings.....356
- of pyranopyrimidines.....369
- of pyrazoles.....354
- of pyridazine derivatives.....367
- of pyridines.....361
- of pyrimidine derivatives.....364
- of pyrroles.....353
- of quinolines.....361
- of thietanes.....349
- of thiiranes.....348
- of thiophenes.....352
- of 1,2,4-triazines.....367
- of 1,2,4-triazoles.....356
- of six membered rings.....361
- Cycloaddition.....59, 76, 461
- chemoselective ligation role of.....59
- with diethyl azodicarbonylate.....461
- of *N*-(dienyl)-4-(*R*)-phenyl-oxazolidin-2-thione.....469
- [4+2][2+2] Cycloadditions.....345
- of fulvenes cycloadditions.....347
- of oxetane.....348
- of pyrazolopyridines.....345
- of pyridines.....347
- of tetrazines.....346

Cycloadducts	458	Ester methylation	248
structural analysis of	458	mechanism of	248
spectroscopic/theoretical methods for	458		
chemical transformations of	459		
Cyclohexanone	233	Faujasites	281
Wittig methylation of	233	structural features of	281
Cyclopropanation	537		
Cyclopropane derivatives	23	Geminally-substituted vinyl phosphonats	455
carbon-carbon bond-forming polymerization of	23	reaction of chiral 1-aminodienes with	463
		2-C β -Glucosides	206
Deoxyadenosine-deoxyadenosine (dA-dA) dimer	92	epimerization of	206
synthesis of	92	β -Glucosides	205
Deoxyguanosine-deoxyadenosine (dG-dA) dimer	91	epimerization of	205, 206
synthesis of	91	oxidation-reduction method for	205
Deoxyguanosine-deoxyguanosine (dG-dG) dimer	90	use of 2-ulosyl halides	205
synthesis of	90	Glycidic scaffolds	158
Diastereoselectivity	293	in peptidomimetic synthesis	158
induced by remote chiral substituent	295	Glycopeptides	71
Diazo compounds	377	chemoselective ligation role of	59
reactions of carbenoids/ketenes from	377	Grubbs reagents	247
2, 4-Diene steroidal compounds	11	carbonyl methylation use of	231
5, 7-Diene steroidal compounds	12	Guanacastepene A	265
5, 7-Diene steroidal compounds	3	construction of hydroazulenone core of	267
7, 9(11)-Diene steroidal compounds	5, 12	construction of [5-7-6] tricyclic core of	272
8, 14-Diene steroidal compounds	6, 13	formal synthesis of	265
7, 14-Diene steroidal compounds	15	synthetic approaches toward	267
3, 5-Diene steroids	2	synthetic strategies directed toward	267
4, 6-Diene steroids	17	Guanacastepenes	261
oxidation of	2	miscellaneous strategy to	278
5, 7-Diene steroids	17	progress in	261
oxidation of	2	synthesis of	261
Dihydroxylation	5	total synthesis of	262
of cholesta-5, 7-dien-3 β -yl acetate	5	Guanine	228
α,α -Disubstituted α -hydroxy acids	113	allylic rearrangement of	228
and β -ketoesters	113		
by Baeyer-Villiger oxidation	113	Halo aromatics	89
spectral data of	118	reactions of	89
synthesis of	113	with protected nucleosides	89
Disulfide linkages	74	Halogenated electrophiles	73
DNA	98, 103	C-2 Halo nucleosides	87
of polycyclic aromatic hydrocarbon diol epoxide	98	reactions of	87
of polycyclic aromatic hydrocarbon radical	103	with amines	87
cations	103	C-8 Halo nucleosides	92
Dye-sensitized intrazeolite photooxygenation	281	reactions of	92
alkenes by	281	with amines	92
mechanism of ene hydroperoxidation in	284	Hepatitis B virus	217
of electron-poor alkenes	288	cyclin-dependent kinases 1/2 against	217
of isobutenylarenes	289	Herpes viruses	217
of stilbenes	289	cyclin-dependent kinases 1/2 against	217
of trisubstituted alkenes	285	Heteroaromatics	388
regioselectivity in	285	reactions of	388
		Heterocyclic compounds	333, 393
Electrophile/nucleophile pairs	72	centennial methodology for	393
Enzymatic synthesis	209	cycloaddition reactions for	335
of β -mannosidic linkage	175	1,3-dipolar cycloadditions for	335
Epimerization	205, 206	[4+2], [2+2]/higher order cycloadditions of	345
of β -glucosides	205	microwave-assisted cycloaddition reactions	335
of 2-C β -glucosides	206	microwave-assisted ring formation of	335
5 α -Ergost-2,22-dien-6-one	16	microwave-assisted synthesis of	333
asymmetric dihydroxylation of	16	preparation of	393
		recent advances in	333
		use of batch reactors	334
		use of domestic microwave ovens	334
		use of modified domestic microwave ovens	334
		use of single-mode reactors	334

- Horner reaction237
 carbonyl methylenation role of.....231
- Horner-Wadsworth-Emmons reaction237
 carbonyl methylenation role of.....231
- Hydrazones386
 reactions of386
- Hydroxybenziodoxoles122
 in organic synthesis.....121
- β -Hydroxy sulfoximines244
 reductive elimination of.....244
- Hyperbranched polyam25
 formation of.....25
- Iidium salts492
 allylation of492
 coupling reaction of538
 hetero-Diels-Alder reaction of526
 Mukaiyama-type aldol reaction of523
 other reactions of541
 phase-transfer alkylation of530
 ring-opening cross-metathesis of540
- Imidazolones343
- Imines479
 allylation of480
 reactions of382
 related compounds of479
 role of copper491
 role of indium490
 role of samarium490
 stereoselective allylation reactions of479
- Indolizines342
- Intermolecular glycosylation methods175
 for β -mannosidic linkage175
- Intramolecular coiodination393
 alkenes with oxygenated nucleophiles407
 of alkenes393
 of alkenes with other oxygenated nucleophiles407
 of alkenols395
 of alkenols/unsaturated ethers395
 of unsaturated acids/derivatives403
 of unsaturated ethers395
 using internal oxygenated nucleophiles.....393
- Intramolecular glycosylation methods194
 for β -mannosidic linkage175
- Intrazeolite asymmetric photooxygenation.....287
 of alkenes281
- Intrazeolite photooxygenation293
 of chiral alkenes293
- Ionic liquids (ILs)437
 ability to design specific physical/chemical
 properties437
 and carbohydrates439
 as reaction medium/solvent for reactions of
 carbohydrates444
 biodegradability of450
 biological significance of439
 catalyzed reactions of carbohydrates441
 challenges of449
 costs of450
 crystallization of448
 current trends of437
 downstream processing of449
 enzymatic selective acylation of glycosides in444
 enzyme catalysis of sugars in442
 fructose-derived448
 future directions of437
 glycosylation in444
 in carbohydrate chemistry437
- in dehydration of fructose into 5-hydroxymethyl-
 furfural447
- in glycosidation of glucopyranosyl diether
 phosphated/alcohols447
- in inactivation/unfolding of cellulase from
Trichoderma reesei.....444
- in peracetylation of di/tri-saccharides441
- in peracetylation of simple/protected mono-
 saccharides441
- in peracetylation of sulfated saccharides441
- in synthesis of 2, 3 unsaturated glycopyranosides.....446
- in synthesis of *N*-acetyl lactosamine using β -
 galactosidase442
- in perbenzylation of simple saccharides441
- light scattering of448
- low melting point of437
- low/near zero vapor pressure of437
- MALDI-MS of449
- other limiting properties of450
- other useful properties of439
- potential applications of448
- recoverability/reusability of437
- thermal stability of439
- toxicity of449
- use in biotechnology439
- viscosity of450
- water miscibility of437
- Isobutenylarenes.....289
 dye-sensitized intrazeolite photooxygenation of.....281
- Isoprenoids306
 as sources of chirality in stereoselective synthesis
 of isoquinolines/ β -carboline306
- Isoquinoline.....301
 advances in301
 alkaloids as sources of chirality in stereoselective
 synthesis of.....316
- amino acids as sources of chirality in
 stereoselective synthesis of.....317
- carbohydrates as sources of chirality in
 stereoselective synthesis of.....302
- isoprenoids (terpenoids) as sources of chirality
 in stereoselective synthesis of.....306
- natural hydroxyacids as sources of chirality
 in stereoselective synthesis of.....312
- stereoselective synthesis of.....301
- use of chiral auxiliaries for.....301
- use of chiral auxiliaries of natural origin.....301
- Isotopically labeled O⁶-substituted guanines.....218
- Isoxazoles338
- Isoxazolidines.....335
- Julia-Lythgoe olefination244
 carbonyl methylenation role of.....231
 sulfoxide variant of.....245
- Katsuki's synthesis.....44
 of (-)-swainsonine.....39
- Ketenes377
- β -Ketoesters113
 α,α -disubstituted α -hydroxy acids and113
- Ketoimines382
 reactions of382
- Ketone537
 transfer hydrogenation of537
- Knoevenagel condensation415
- Less used organometallic ions576
 in organo-Rh complexes576

- in hydrogenations577
 in Michael reactions579
 Lombardo's variation253
 carbonyl methylenation effects of231

 Malonic esters anion 26
 three-component coupling polymerization of 26

 β -Mannosidic linkage175
 construction of175
 enzymatic synthesis of209
 intermolecular glycosylation methods for175
 intramolecular glycosylation methods for194
 non-participating groups role of175
 oxidation-reduction method for205
 role of anomeric *O*-alkylation191
 role of electron-withdrawing substituents184
 role of non-participating groups187
 role of radical anomeric inversion208
 strategies towards175
 synthetic methodologies for175

 β -Mannoside210
 from non-carbohydrates210

 Mannosylidene acetal207
 reductive cleavage of207

 Methyltrioxorhenium-catalysed hydrogen peroxide
 oxidation 1
 of steroids 1

 Methyltrioxorhenium-hydrogen peroxide system 1

 Michael addition421
 catalyzed by $\text{KF}\cdot\text{Al}_2\text{O}_3$ 424
 catalyzed by KOH422

 Microarray technology 63
 chemoselective ligation role of 59

 Microwave333

 Microwave-assisted synthesis334
 cyclization reactions in348, 361
 equipment used in334
 fulvenes cycloadditions in347
 of benzimidazoles359
 of benzofurans356
 of benzothiazoles359
 of benzoxazoles359
 of chromenes369
 of coumarins368
 of 1,3-dipolar cycloadditions335
 of five membered rings350
 of furanones350
 of fused imidazole358
 of fused thiazoles358
 of fused triazoles359
 of imidazoles353
 of imidazolones343
 of indoles357
 of indolizines342
 of isoxazoles338
 of β -lactams349
 of oxadiazolines340
 of oxazoles350
 of oxazolines337
 of polyannular five membered rings356
 of pyranopyrimidines369
 of pyrazole derivatives342
 of pyrazoles354
 of pyrazolopyridines345
 of pyridazine derivatives367
 of pyridines347, 361
 of pyrimidine derivatives364
 of pyrroles353
 of pyrrolidines342
 of quinolines361

 of six membered rings361
 of tetrazines346
 of thietanes349
 of thiiranes348
 of thiophenes352
 of three/four membered rings348
 of 1,2,4-triazines367
 of 1,2,4-triazoles356
 of triazoles344
 role of isoxazolidines335
 use of batch reactors334
 use of domestic microwave ovens334
 use of modified domestic microwave ovens334
 use of single-mode reactors334

 Microwave theory333
 assisted cyclization reactions348
 assisted cycloaddition reactions335
 assisted heterocyclic ring formation335
 equipment for334
 synthetic applications of335

 Modern organic synthesis236
 Wittig methylenation in236

 Monosaccharide based scaffolds153
 for combinatorial synthesis153

 Mootoo's synthesis 39
 of (-)-swainsonine 39

 Multivalent carbohydrate displays 65

 N2 Modified 2'-deoxyguanosine analogs 87
 reactions leading to 87

 N6 modified 2'-deoxyadenosine analogs 84
 reactions leading to 84

 Natural hydroxyacids312
 as sources of chirality in stereoselective synthesis of
 isoquinolines/ β -carboline312

 Natural products231

 Nitriles387
 reactions of387

 Nitrogen-containing compounds378
 reactions of378

 1-Nitropyrene107

 Non-natural products232

 Nucleoside adducts 98
 palladium catalyzed synthesis of 98

 Nucleoside analogs 83
 biologically active 83
 by palladium-catalyzed C-N bond-formation 83
 synthesis of 83

 Nucleoside dimers 90
 palladium catalyzed synthesis of 90

 Nysted reagent250
 carbonyl methylenation use of231

 O⁶-Substituted guanines219
 methods for219
 synthetic precursors for219
 synthesis of219

 Oligosaccharide analogs 71
 chemoselective ligation role of 59

 Optically NOBIN501
 synthesis of501
 through asymmetric oxidative cross-coupling
 reaction501

- Organic nitrogen compounds377
 reaction with carbenoids377
 reaction with diaryl-ketenes377
 reactions of378
- Organic synthesis121, 231
 alkylperoxybenziodoxoles in124
 amidobenziodoxoles in127
 analogous reagents in130
 azidobenziodoxoles in125
 benziodazoles in127
 benziodoxole-based hypervalent iodine reagents in121
 carbonyl methylenation in231
 cyanobenziodoxoles in127
 Dess-Martin periodinane (DMP) in135
 five-membered iodine(III) heterocycles in121
 five-membered iodine(V) heterocycles in129
 hydroxybenziodoxoles in122
 IBX in130
 pseudo-benziodoxoles in139
- Organo-Ag complexes580
 in alkylation of aldehydes580
 uses in other reactions580
- Organo-Cu complexes558
 in 1,4-additions559
 in Diels-Alder reactions562
 uses in other reactions564
- Organo-Cu-Li complexes566
 in addition to alkynyl esters566
 in Michael additions566
 uses in other reactions567
- Organo-Fe complexes567
 in alkylation of aldehydes567
 in hydrogenations569
 uses in other reactions569
- Organo-Ru complexes571
 in transfer hydrogenations572
 in hydrogenations575
 uses in other reactions575
- Organo-Sn/Pd/Cr/Yb complexes581
- Organo-Zn complexes547
 in alkylation/alkynylation of aldehydes547
 in alkylation of ketones553
 in aldol reactions554
 in Mannich reactions554
 in reductions556
- Organolithium reagents253
 for carbonyl methylenation231
- Organometallic complexes547
 of Zn547
 of Cu547
 of Fe547
 of Ru547
 of less-used ions547
 use in selective 1,2-1,4-additions547
 use in transfer hydrogenations547
 use in Aldol reactions547
 use in Diels-Alder reactions547
 quantum calculations of583
 prediction of ee% of583
- Organometallic methylenation reagents246
 carbonyl methylenation use of231
- Osmium tetroxide1
- Oxadiazolines340
- Oxazolines337
- Oxidation2
 of conjugated diene steroids16, 17
 of conjugated steroidal dienes2
 of 4,6-diene steroids17
 of 5,7-diene steroids17
 of monoene steroids2, 9, 15
 of steroids with osmium tetroxide15
- Oxidation-reduction method205
 for β -mannosidic linkage175
 for β -glucosides linkage205
- Oximes382
 reactions of382
- Palladium catalyzed synthesis90, 98
 of nucleoside dimers90
 of nucleoside adducts98
- Palladium-catalyzed allylic substitution reaction21
 in polymer synthesis21
- Pearson's synthesis41
 of (-)-swainsonine39
- Peptidomimetic synthesis158
 glycidic scaffolds in158
- Permanganate oxidation16
 of steroids16
- Petasis reagent248
 carbonyl methylenation use of231
- Peterson olefination240
 carbonyl methylenation role of231
- Phenylthiomethylcarbinyl esters243
 reductive elimination of243
- 1-Phosphondienes459
 cycloaddition of459
- Phosphorus-based methylenation systems233
- Photooxygenation reactions281
 in organized media281
 complexities of intrazeolite282
- Pinacol coupling reaction426
 induced by Al430
 induced by Mg428
 induced by Mn428
 induced by Zn426
- Polyaddition reaction32
- Polycondensation reaction28
 development of28
 reaction pathways of31
 via typical Tsuji-Trost reaction28
- Polycyclic glycidic scaffolds161
- Polycyclic aromatic hydrocarbon radical cations103
 binding of103
 to DNA103
- Polycyclic glycidic scaffolds161
- Polymer synthesis21
 palladium-catalyzed allylic substitution
 reaction in21
- Polymerizations34
 via *p*-allylpalladium intermediates34
- Polycyclic aromatic hydrocarbon diol epoxide
 metabolites98
 binding of98
 to DNA98
- Polyoxygenated steroids1
 synthesis of1
 transition metal-based1
- Potassium permanganate1
- Δ^5 -Pregnenes9

- of nitroalkenes catalyzed by $\text{NH}_4\text{OAc-HOAc}$ 417
 of nucleoside analogs 83
 of other NOBIN analogues505
 of polymer-supported and518
 of polyoxygenated steroids..... 1
 of schiff base509
 of swainsonine analogues.....48
- Takai lombardo reagents251
 carbonyl methylenation use of231
- Takai's methodology251
 for carbonyl methylenation.....231
- Takeda reagent249
 carbonyl methylenation use of231
- Template assembled multivalent peptides (TASPs)..... 68
- Thiol nucleophiles 73
 in conjugate additions 74
- Titanium-based methylenation reagents246
 carbonyl methylenation use of231
- Total synthesis262
 of guanacastepenes.....261
- (+)-1,2,8-tri-*epi*-swainsonine 51
 synthesis of.....48, 50, 51
- Triazoles.....344
- Triflates..... 86
 reactions of 86
 with protected nucleosides 86
- Trost's synthesis 42
 of (-)-swainsonine.....39
- Ultrasound Irradiation415
 applications of415
 in Michael addition catalyzed by $\text{KF-Al}_2\text{O}_3$ 424
 in Michael addition catalyzed by KOH 422
 in organic synthesis415
 in pinacol coupling induced by Al430
 in pinacol coupling induced by Mg 428
 in pinacol coupling induced by Mn 428
 in pinacol coupling induced by $\text{TiCl}_4/\text{metals}$430
 in pinacol coupling induced by Zn 426
 in pinacol coupling reaction426
 in synthesis of 2-aryl-1, 3, 5-triaryl-4-carbethoxy
 -4-cyanocyclohexanols.....425
 in synthesis of 4-oxo-2-thioxohexahydro-
 pyrimidines.....433
 in synthesis of 5-substituted/5, 5-disubstituted
 hydantoins430
 in synthesis of α, α' -bis(substituted benzylidene)
 cycloalkanones catalyzed by $\text{KF-Al}_2\text{O}_3$421
 in synthesis of α, α' -bisfurfurylidene-cyclo-
 alkanones catalyzed by KOH 419
 in synthesis of arylmethylenemalonitrile without
 catalysts418
 in synthesis of chalcones catalyzed by
 $\text{KF-Al}_2\text{O}_3$ 420
 in synthesis of chalcones catalyzed by
 pulverized KOH419
 in synthesis of cinnamic acids catalyzed by
 graphite417
 in synthesis of ethyl α -cyanocinnamates
 catalyzed by $\text{KF-Al}_2\text{O}_3$417
 in synthesis of ethyl α -cyanocinnamates
 catalyzed by $\text{NH}_4\text{OAc-AcOH}$ 415
 in synthesis of ethyl α -cyanocinnamates
 catalyzed by pyridine415
 in synthesis of nitroalkenes catalyzed by
 $\text{NH}_4\text{OAc-HOAc}$ 417
 use in Biginelli reaction432
 use in Claisen-Schmidt condensation419
 use in Michael addition421
 use in Reformatsky reaction434
 use in Vilsmeier-Haack reaction434
- Uncatalyzed C-N bond formation109
 leading to *N*6-arylation of109
- Vicinally-substituted vinylphosphonates457
 reaction of chiral 1-aminodienes with466
- Vilsmeier-Haack reaction434
- Vinyl phosphonates455
 cycloaddition of 1-aminodienes with455
- Wittig Methylenation.....233, 236
 of cyclohexanone.....233
 in modern organic synthesis236
- Wittig reaction.....233, 237, 255
 alternatives to237
 alternatives to237
 carbonyl methylenation role of.....231
 for carbonyl methylenation.....231
 phenylthiomethylcarbonyl esters243
 reductive elimination of.....243