

Indices

The contents of the foregoing chapters have been distributed among two indices.

The “**General Subject Index**” mainly deals with

- heterocyclic compounds presented in this book including natural products and systems of pharmaceutical, medicinal and technical relevance;
- unnamed reactions and reaction types characteristic and specific for heterocyclic chemistry;
- general principles important for the nomenclature of heterocycles.

This index does not list generally used transformations such as cycloaddition(s), cyclocondensation, thermolysis, photolysis, photoisomerization, oxidation, reduction, decarboxylation, valence tautomerism, metalation, C-C-coupling reactions, metathesis, etc.

The “**Index of Named Reactions**” covers the named reactions, reaction types and principles for synthesis of the aforementioned heterocyclic systems. The heterocycle resulting from a named synthesis is shown in brackets, e.g. Fischer synthesis (indole).

General Subject Index

a

- | | | | |
|------------------------|----------------|--------------------------|-------------|
| Abacavir | 480 | Allopurinol | 480 |
| Acivicine | 196 | Alloxan | 472 |
| Acridine | 423, 428 | Alloxazine | 490 |
| Acridine yellow | 429 | Amidopyrine | 248 |
| Actinomycin | 446 | 1-Aminobenzotriazole | 267 |
| Acriflavinium chloride | 428 | 6-Aminopenicillanic acid | 213 |
| Acyclovir | 480 | 5-Aminotetrazole | 278 |
| 1-Acylimidazole | see imidazolid | 2-Aminothiazole | 207 |
| Adenine | 478 | 3-Amino-1,2,4-triazole | 271 |
| Adenosine | 479 | Amiodarone | 84 |
| ADP | 479 | Amitrol | 272 |
| Aesculetine | 325 | Amizol | see Amitrol |
| Aflatoxin | 325 | Anhalonidine | 418 |
| Alizaprid | 266 | AMP | 479 |

- Ampicillin 213
Anabasine 378, 433
Anatoxine 539
Aneurine see thiamine
Anhalamine 418
Anhalonidine 418
Annular tautomerism 152
Anomeric effect 317
ANRORC mechanism 482
Anthocyanidin 328
Anthocyanin 328
Antihistamines 228
Antipyrine see phenazone
Apigenin 340
Arborin 498
Arecoline 433
Aristeromycin 480
Arsabenzene 437
Atebrin 428
ATP 479
Atrazine 512
Atropine 433
Avermectin 318
Aza[10]annulene 550
Aza[14]annulene 550
Aza[18]annulene 550
Azepan-2-one 538
Azepine 533
– structure 534
– reactions 535
– synthesis 535
Azaprismane 363
Azete 50
Azetidine 51
(*S*)-Azetidine carboxylic acid 54
Azetidinone 52
Aziridine 32, 36
– structure 32
– reactions 33
– synthesis 34
2*H*-Azirine 29
– reactions 29
– synthesis 30
Azlactone see 2-oxazolin-5-one
Azocine 547
Azonine 549
- b**
- Bacteriochlorin 551
Bamipine 434
Barbital see diethylbarbituric acid
Barbiturate 473
Barbituric acid 470
Base component 9
Benazoline 211
Bensulfuromethyl 473
Benzazepine 538
Benzazetine 54
Benzene oxide 25, 529
Benzimidazole 229, 233
2*H*-Benzimidazole-2-spirohexane 234
1,4-Benzodiazepines 543
1,5-Benzodiazepines 542
Benzodiazines 491, 498
Benzo[*b*]furan 80, 84
Benzo[*c*]furan see isobenzofuran
Benzofuroxan 253
Benzo[*g*]pteridine 490
2*H*-1-Benzopyran see 2*H*-chromene
Benzo[*d*]pyrazole see indazole
1-Benzopyrylium ion 327
1,2,3-Benzothiadiazole 255
Benzothiazole 208, 211
Benzo[*b*]thiophene 101, 103
Benzo[*c*]thiophene 104
1,2,3-Benzotriazine 501
Benzotriazole 265, 266
3,1-Benzoxazin-2,4-dione 444
3,1-Benzoxazin-4-one 444
Benzoxazole 177, 181
Benzoxepin 531
Benzydamine 246
1-Benzylisoquinoline 419
Betanidine 378
Betazole 243
Bifonazole 228
Biladiene 125
Bilin 125
Bilirubin 125
Bilirubinoids 125
Biliverdin 125
Bioisosterism 100, 274
Bioluminescence 211
Biotin 235
3,4-Bis(4-dimethylaminophenyl)-
1,2-dithiete 57
Bislactimether method 486
1,2-Bis(methoxycarbonyl)-
1,2-diazetine 58
Bismabenzene 437
3,4-Bis(trifluoromethyl)-
1,2-dithiete 57
Bleomycins 472
Borazine 1
Brassilexin 216
Brassinolide 532
Brucine 532
Budipine 434

Bufadienolides 311
 Bufalin 311
 Buflomedil 161
 Bufotalin 311
 Bufotenin 146
 Bupivacaine 434

c

Caffeine 478, 479
 Camptothecin 405
 Cannabinol 345
 Cantharidin 89
 Carazolol 149
 1,1'-Carbonyldiimidazol 228
 Carlina oxide 78
 Capri Blue 446
 ϵ -Caprolactam see azepan-2-one
 Captopril 161
 Carbamazepine 539
 Carbazole 148, 149
 Carbostryl 387
 Cardiazol see pentetrazole
 Catechin 340
 Cefatrizin 264
 Celecoxib 243
 Cephalosporin 455
 Cepham 455
 Cerivastin 379
 Chalciporon 539
 Chelidonic acid 335
 Chemiluminescence 55
 1-Chlorobenzotriazole 267
 Chlordiazepoxide 544
 Chlorin 551
 (Chloromethyl)oxirane 24
 Chlorophyll 556
 Chloroquine 406
 Chlorpromazin 446
 Chroman 341, 344
 2*H*-Chromene 318
 4*H*-Chromene 335
 2*H*-Chromenone see coumarine
 4*H*-Chromenone see chromone
 Chromone 336, 340
 – structure 336
 – reactions 337
 – synthesis 338
 Chromylium ion see benzopyrylium ion
 Cibenzolin 581
 Cimetidine 227
 Cinchonidine 405
 Cinchonine 405
 Cinnizarine 487
 Cinnoline 493

Ciprofloxazin 406
 Click chemistry 262
 Cocaine 433
 Codonopsin 576
 Coelenterazine 485
 Collidine 345
 Coniine 432
 Copper(II)phthalocyanine 557
 Coralyn 423
 Corrin 552
 Coumalic acid 311
 Coumarin 321, 324
 – structure 321
 – reactions 321
 – synthesis 322
 Coumarone see benzo[*b*]furan
 Cyanidine 328
 Cyanine dyes 393
 Cyanocobalamin 233, 557
 Cyanuric chloride see 2,4,6-trichloro-
 1,3,5-triazine
 Cyanuric acid 512
 Cyclazine 153
 Cycloserine 196
 Cytisine 423
 Cytokinin 480
 Cytosin 470

d

Dehydroacetic acid 311
 Delphinidin 328
 Deoxynojirimycin 433
 Desipramin 539
 Dewar pyridine 363
 1,3-Diamant-1-ylimidazol-
 2-ylidene 221
 1,5-Diaminotetrazole 279
 Diazepam 544
 1,2-Diazepines 540
 1,4-Diazepines 541
 1,2-Diazetidine 58
 1,2-Diazine see pyridazine
 1,3-Diazine see pyrimidine
 1,4-Diazine see pyrazine
 Diaziridine 40
 3*H*-Diazirine 40
 1,2-Diazole see pyrazole
 1,3-Diazole see imidazole
 Dibenzazepine 539
 Dibenzo[1,4]dioxin 439
 Dibenzofuran 86

- Dibenzopyridines 423
 Dibenzothiepin 533
 6,6'-Dibromoindigo 146
 3,4-Di-*tert*-butyl-1,2-dithiete 57
 1,3-Dichlorobenzo[*c*]thiophene 104
 Dicumarol 325
 Didrovaltrat 316
 5,5-Diethylbarbituric acid 473
 Difenamizole 243
 Difenzoquat 243
 Difluorooxirane 37
 3,4-Dihydro-2*H*-1-benzopyran
 see chroman
 2,3-Dihydro-1,4-diazepines 541
 1,2-Dihydro-1,2-diazete 58
 1,4-Dihydro-1,4-diazocine 549
 2,3-Dihydroisoxazole 198
 4,5-Dihydroisoxazole 193
 5,6-Dihydro-4*H*-1,3-oxazine 442
 4,5-Dihydrooxazole 181
 3,4-Dihydro-2*H*-pyran 313, 316
 3,4-Dihydropyrazole 246
 2,5-Dihydrothiophene 105
 Diketene 48
 (4-Dimethylaminophenyl)pentazole 280
 3,3-Dimethyldiazirine 40
 Dimethyldioxirane 37
 2,6-Dimethylpyran-4-one 334
 Dimetilan 243
 1,3-Dioxane 449, 452
 1,4-Dioxane 440, 441
 1,2-Dioxetane 55
 1,2-Dioxetan-3-one 56
 1,4-Dioxin 438
 Dioxin (TCDD) 439
 Dioxirane 37
 1,4-Dioxocine 549
 1,3-Dioxolane 162
 2,5-Dioxopiperazine 486
 Diphenoxylate 434
 1,3-Diphenylbenzo[*c*]thiophene 104
 Diphenylenoxide see dibenzofuran
 1,3-Diphenylisobenzofuran 85
 Dipyrrolylmethane 114
 Diquat 368
 Directed metalation (pyridine) 353
 1,3-Dithiane 453
 1,2-Dithiete 57
 1,4-Dithiin 438
 1,2-Dithiolane 164
 1,3-Dithiolane 165
 1,2-Dithiole 163
 1,3-Dithiole 165
 1,2-Dithiolylium ion 163
 Dodemorph 449
 DOPA 147
e
 Ecgonine methyl ester 433
 Efavirenz 444
 Ellipticine 149
 Eosin 340
 Epichlorohydrin see (chloromethyl)oxirane
 Epirizole 248
 Episulfide see thiirane
 Epoxide see oxirane
 Epoxidation, of olefins 22
 Epoxide resins 25
 Eprosartan 228
 Erythropterin 489
 Ethionamide 379
 Ethylene imine see aziridine
 Ethylene oxide see oxiran
 Ethylene sulphide see thiirane
 Etridiazole 258
 Evodienol 320
f
 Fentanyl 434
 Flavane 340
 Flavanol 340
 Flavazin 248
 Flavin see isalloxazin
 Flavone 337, 340
 Flavone-8-acetic acid 340
 Flavonol 340
 Flavylum ion 327
 Flunarizine 487
 Fluoresceine 340
 5-Fluorouracil 473
 Folic acid 490
 Furan 61, 77
 – structure 61
 – reactions 63
 – synthesis 71
 Furan-2-carboxaldehyde see furfural
 Furan-2-carboxylic acid 78
 Furan-2-methanthiol 78
 Furazan see 1,2,5-oxadiazole
 Furazan oxide see furoxane
 Furfural 77
 Furocumarin 325
 Furoxan 253
g
 Galanthamine 539
 Gentionpicoside 316
 Glycidic ester synthesis 21

Glycidol 25
 Glyoxaline see imidazole
 Gramine 128
 Guanine 478
 Guthion 503

h

Hantzsch-Widman nomenclature 6
 Hellebriginin 311
 Hematin 555
 Hemin 555
 Hemoglobin 555
 Hetarenes 4
 Heterocycloalkanes 2
 Heterocycloalkenes 2
 Heteronins 549
 Hexachlorophene 439
 Hexetidine 472
 Hexobarbital 473
 Histamine 227
 Histidine 227
 Histrionicotoxin 433
 Hydantoin 235
 Hydrogen, indicated 10
 1-Hydroxybenzotriazol 267
 4-Hydroxyproline 161
 8-Hydroxyquinoline 405
 4-Hydroxyquinoline-2-carboxylic acid 405
 (Hydroxymethyl)oxiran 25
 5-Hydroxymethylfuran-2-carbaldehyde 78
 Hydroxyzine 487
 Hygrine 161
 Hyoscyamine 433
 Hypoxanthine 478

i

Imidazole 217, 227
 – structure 217
 – reactions 218
 – synthesis 223
 Imidazolide 228
 Imidazolidin-2,4-dione
 see hydantoin
 Imidazolidin-2-one 234
 Imidazolidin-2,4,5-trione
 see parabanic acid
 Imidazolidine 234
 Indazole 243, 246
 2*H*-Indazole 244, 246
 Indican 147
 Indigo 133, 145

Indole 125, 144
 – structure 125
 – reactions 126
 – synthesis 134
 Indole-3-acetic acid 147
 Indolizine 152
 – reactions 153
 – synthesis 153
 Indomethacine 147
 Indophenin reaction 99
 Indoxyl 133, 144
 Inotilone 566
 Inversion
 – of azetidine 51
 – of aziridine 32
 – of oxetane 45
 – of thietane 49
 Ipriflavone 588
 Iprindole 147
 Irbesartan 280
 Iridodial 316
 Iridoids 316
 Isatin 133, 145
 Isalloxazine 490
 Isatoic anhydride
 see 3,1-benzoxazin-2,4-dione
 Isobenzofuran 84
 Isochroman 341
 Isocoumarin 325
 Isocyanuric acid 512
 Isoindole 150
 Isoniazide 379
 Isonicotinic acid 379
 Isoquinoline 406, 418
 – structure 407
 – reactions 407
 – synthesis 412
 Isoquinoline alkaloids (types) 419
 Isopelletierine 432
 Isothiazol 214, 216
 – structure 214
 – reactions 214
 – synthesis 216
 Isotianil 216
 Isovaltrate 316
 Isoxazole 186, 190
 – structure 186
 – reactions 186
 – synthesis 188
 2-Isoxazoline see 4,5-dihydroisoxazole
 4-Isoxazoline see 2,3-dihydroisoxazole
 Isoxazoline methodology 196
 Isoxicam 190
 Ivermectin 318

j

- (Z)-Jasmone 78
 Junipal 99
 Juvenil hormone 25

k

- Kaempferol 340
 Kinetin 480
 Kojic acid 335

l

- β -Lactam see azetidin-2-one
 β -Lactam antibiotics 54
 β -Lactamase 213
 Lactoflavin 491
 β -Lactone see oxetanone
 Lamotrigin 509
 Lapachenol 320
 Lauth's Violet 446
 Lawesson reagent 1
 Leflunomide 190
 Lepidine 387
 Leucopterin 489
 Levetiracetam 160
 Levobupivacaine 434
 Levosimendan 462
 α -Lipoic acid 164
 Lobeline 432
 Loganin 316
 Losartan 280
 Luciferin 211
 Lucigenin 429
 Lukianol 570
 Lumazine 489
 Lumiflavine 491
 Luminol 56, 498
 Lupinine 423
 Luteolin 340
 Lutidine 345

m

- Maltol 335
 Meconic acid 335
 Melamine see 2,4,6-triamino-1,3,5-triazine
 Melanins 147
 Meldola Blue 446
 Meldrum's acid 452
 Menthofuran 78
 2-Mercaptobenzothiazole 211
 Mesoionic compounds 175
 Metallacycle 374
 Metamitron 508
 Metamizole 248
 Metaphenilen 99

- Methaemoglobin 555
 Methaqualon 498
 Methotrexat 490
 Methoxatin 406, 613
 2-Methoxyazocine 547
 Methylene Blue 447
 Methyloxiran 24
 Methylphenobarbital 473
 1-Methylpyrrolidin-2-one 160
 Methylreticulol 588
 Metribuzin 508
 Metronidazole 228
 Mitomycin 36
 Mobam 103
 Monensin 89
 Morin reaction 456
 Morpholine 447, 448
 Münchnone 175
 Murrayanine 149
 Muscaffavin 539
 Muscarine 88
 Muscimol 190
 Muscone 100

n

- NAD/NADH 367
 Nalidixic acid 406
 Name, systematic 5
 N-Atom
 – pyridine-type 3
 – pyrrole-type 3
 Nereistoxin 164
 Neplanocine 480
 Niacin see nicotinamide
 Nicotinamide 378
 Nicotinic acid 378
 Nicotin 378
 Nicotyrin 378
 Nifedipin 379
 Niridazol 208
 NIH shift 531
 5-Nitrofurantoin-2-carbaldehyde 77
 Nitron 272
 N-Lost 33
 Nojirimycin 433
 Nomifensin 419
 Nonactin 89
 Norlaudanosoline 419
 Nornicotin 378
 Nothapodytin B 79
 Nucleic acid 479
 Nucleoside 479
 Nucleoside antibiotics 480
 Nucleotide 479

o

Ommochromes 446
 Orotic acid 471
 Osotriazole 264
 1,2,3-Oxadiazole 250
 1,2,4-Oxadiazole 250
 1,2,5-Oxadiazole 251,253
 1,3,4-Oxadiazole 251
 1,4-Oxathiin 438
 Oxazines 442
 1,3-Oxazinium ion 444
 1,3-Oxazinon 443
 Oxaziridine 38
 Oxazole 166, 175
 – structure 166
 – reactions 167
 – synthesis 171
 2-Oxazoline see 4,5-dihydrooxazole
 2-Oxazolin-5-one 184
 Oxepan-2-one 532
 Oxepin 529
 Oxetane 45
 – structure 45
 – reactions 45
 – synthesis 46
 Oxetan-2-one 47
 Oxindole 145
 Oxirane 17,24
 – structure 17
 – reactions 18
 – synthesis 21
 Oxirene 17
 Oxonine 549

p

Papaverine 414
 Parabanic acid 236
 Paraquat 368
 Parent compound 6
 Pelargonidin 328
 Penam 212
 Penicillins 213
 Pentamethylenetetrazole 279
 Pentazole 280
 α -Peroxylactone see 1,2-dioxetan-3-one
 Phaeophorbide 556
 Phaeophytin 556
 Phenanthridine 423, 428
 Phenazine 499
 Phenazone 248
 Pheniramine 379
 Phenobarbital 473
 Phenothiazine 445
 Phenoxathiin 439

Phenoxazine 445
 Phenylbutazone 249
 Phlorin 551
 Phosphabenzene 434
 – structure 434
 – reactions 435
 – synthesis 437
 Phosphinane 434
 Phosphinine 434
 Phosphole 161
 Phthalocyanine 557
 Phthalazine 494
 Physostigmine 539
 Picoline 345
 Pimprinin 176
 Pinacyanol 393
 Pipecolic acid 432
 Piperazine 486
 Piperidine 429, 431
 Piperidine alkaloids 433
 Piperine 432
 Piperic acid 432
 Piracetam 160
 Planomycin 508
 Polyether antibiotics 89
 Poly-*N*-vinylcarbazole 150
 Poly-*N*-vinylpyrrolidone 160
 Porantherin 613
 Porphobilinogen 553
 Porphycin 558
 Porphyrin 551, 555
 Porphyrinogen 551
 Porphyrinoids 558
 Praziquantel 419
 Prazosin 498
 Precocene I/II 320
 Primethamin 472
 Principle
 – of decreasing priority 6
 – of lowest possible numbering 7
 – of latest possible classification 16
 Proline 160
 Promethazine 446
 (*S*)-Propranolol 19
 Propylene oxide 24
 Proquazone 498
 Protoporphyrin 555
 Psilocin 146
 Psoralene 325
 Pteridine 487, 489
 Pterin 489
 Pumiliotoxin B 433

- Purine 474, 477
– structure 474
– reactions 474
– synthesis 476
Puromycin 480
Purple, ancient 145
2*H*-Pyran 305
4*H*-Pyran 329
Pyran-2-one 306, 311
– structure 306
– reactions 307
– synthesis 309
Pyran-4-one 331, 334
– structure 331
– reactions 332
– synthesis 333
Pyrazine 481, 485
– structure 481
– reactions 481
– synthesis 483
Pyrazole 237, 242
– structure 237
– reactions 238
– synthesis 240
Pyrazolidine 249
2-Pyrazoline
 see 4,5-dihydropyrazole
Pyrazolone 247
Pyrazon 462
Pyridaben 462
Pyridazine 458, 462
– structure 458
– reactions 459
– synthesis 460
Pyridazinomycin 462
Pyridine 345, 377
– structure 345
– reactions 347
– synthesis 386
Pyridine-*N*-oxide 360
Pyridinium betaines 360
Pyridinium chlorochromate 347
Pyridinium dichromate 347
Pyridinium ion 345
Pyridinium perbromide 347
Pyridones 381
– structure 381
– reactions 381
– synthesis 384
Pyridoxal 378
Pyridoxal phosphate 378
Pyridoxamine 378
Pyridoxine 378
Pyridoxol see pyridoxine
Pyrimethamine 472
Pyrimidine 463, 470
– structure 463
– reactions 463
– synthesis 466
Pyronine G 340
Pyrrole 108, 124
– structure 108
– reactions 109
– synthesis 117
Pyrrolidine 158
Pyrrolidin-2-one 160
Pyrrolnitrin 124
Prylium ion 297
– structure 297
– reactions 298
– synthesis 301
Prylium perchlorate 303
- q**
Quercetin 340
Quinaldine 387
Quinazoline 494
Quinethazone 498
Quinidine 405
Quinine 405
Quinmerac 406
Quinoline 386, 405
– structure 387
– reactions 388
– synthesis 395
Quinoline alkaloids 405
Quinolizidine 420
Quinolizine 420
2-Quinolone see carbostyryl
Quinolizinium ion 420
– structure 420
– reactions 420
– synthesis 421
Quinoxaline 497
Quinuclidine 405
- r**
RAMP 160
Reboxetin 448
Ring analysis 15
Ring-chain tautomerism
 (tetrazole) 275
Ring formula index 16
Ring inversion see inversion
Ring name index 16
Rose furan 78
Rotenone 341

s

Saccharin 216
 Safranin T 500
 SAMP 160
 Scillarigenin 311
 Sclerotigenin 599
 Secologanin 316
 1,2,3-Selenadiazole 256
 Selenophene 107
 Senoxepin 532
 Serotonin 146
 Sildenafil 480
 Silthiofam 567
 Simazine 412
 Sirius Blue 150
 Solanidane type 433
 Sparteine 423
 Spirosolane type 433
 Squalene epoxide 25
 Stibabenzene 437
 Strychnine 532
 Sulbactam 212
 Sulfadiazine 472
 Sulfamethoxazole 190
 Sulfapyridine 379
 Sulfolane 107
 3-Sulfolene 105
 Swainsonine 157
 Sydnones 250
 Systems
 – condensed 8
 – heteroaromatic 4

t

Tartrazine 248
 Tautomerism, annular, of
 – benzimidazole 229
 – benzotriazole 265
 – imidazole 217
 – indazole 244
 – isoindole 152
 – pyrazole 238
 – pyrazolone 247
 – tetrazole 274
 – 1,2,3-triazole 159
 – 1,2,4-triazole 168
 Taxol 48
 Tebufenpyrad 582
 Tellurophene 108
 Telmisartan 233
 Temozolomide 516
 Tetraazaporphyrin 557
 2,3,7,8-Tetrachlorodibenzodioxin 439
 2,3,7,8-Tetrachlorodibenzofuran 86
 Tetrahydrocannabinol 345
 Tetrahydrofuran 87, 88
 Tetrahydropyran 317
 Tetrahydrothiophene see thiolane
 Tetramethyl-1,2-dioxetane 56
 Tetrapyrroles 551
 Tetrathiafulvalene 165
 1,2,4,5-Tetrazine 512, 515
 Tetrazole 273, 278
 – structure 273
 – reactions 274
 – synthesis 277
 Tetrodotoxin 498
 Theobromine 478
 Theophylline 478
 Thiabendazole 233
 1,2,3-Thiadiazole 254, 256
 1,2,4-Thiadiazole 256, 258
 Thiamine 207, 471
 Thiamine pyrophosphate 207
 Thianthrene 438
 Thiazine 445
 Thiazole 200, 207
 – structure 200
 – reactions 200
 – synthesis 204
 Thiepin 532
 Thietane 49
 Thiirane 26, 28
 Thioctic acid see α -lipoic acid
 Thiocyclam 164
 Thioindigo 103
 Thiolane 106
 3-Thiolene
 see 2,5-dihydrothiophene
 Thionaphthene
 see benzo[b]thiophene
 Thiopental 473
 Thiophene 90, 99
 – structure 90
 – reactions 91
 – synthesis 96
 Thromboxane 318
 Thunberginol 325
 Thymine 470
 Tiaprofenic acid 99
 Tinuvin P 267
 α -Tocopherol 344
 Triadimenol 272
 2,4,6-Triamino-1,3,5-triazine 412
 Triamterene 490
 1,2,3-Triazine 501, 503
 1,2,4-Triazine 504, 507
 1,3,5-Triazine 508, 510

1,2,3-Triazole 258, 264
 1,2,4-Triazole 268, 271
 1,2,4-Triazolo[1,5-*a*]pyrimidine 473
 Tri-*tert*-butylazete 50
 2,4,6-Trichloro-1,3,5-triazine 510
 Trimethoprim 472
 Trimethylene imine
 see azetidine
 Trivial name 5
 Tropane 433
 Tryptophan 146
 Tsitsikammafuran 564
 Tubercidine 480
 Tyrindol sulfate 147

u

Umpolung 454
 Uracil 470
 Uric acid 479

v

Valepotriate 316
 Valsartan 280
 Valtrat 316
 Verdan 480
 Verdazyl 515
 Veronal
 see 5,5-Diethylbarbituric acid
 Verteporfin 558
 Viloxazine 448
 Vitamin B₁ see thiamine
 Vitamin B₂ see lactoflavin
 Vitamin B₆ see pyridoxine
 Vitamin B₁₂ see cyanocobalamin
 Vitamin E see α -tocopherol
 Vitamin H see biotin

w

Warfarin 325
 Willadiin 472

x

Xanthene 340
 Xanthine 478
 Xanthommatin 446
 Xanthone 340
 Xanthopterin 489
 Xanthylum ion 327

z

Zaleplon 243
 Zomepirac 125
 Zeatin 480
 Zidovudine (AZT) 473

Index of Named Reactions**a**

Achmatowicz reaction 70

b

Baker-Venkataraman rearrangement 338
 Balaban synthesis (pyrylium ion) 302
 Bamberger-Hughes-Ingold rearrangement 350
 Barton-Zard synthesis (pyrrole) 120
 Batcho-Leimgruber synthesis (indole) 136
 Baylis-Hillman reaction 452
 Beirut reaction 254, 500
 Bernthsen synthesis
 – (acridine) 427
 – (phenothiazine) 445
 Biginelli synthesis (pyrimidine) 469
 Bischler synthesis
 – (indole) 138
 – (quinazoline) 494
 Bischler-Napieralski synthesis (isoquinoline) 413
 Blümlein-Lewy synthesis (oxazole) 172
 Boekelheide reaction 362
 Bönnemann synthesis (pyridine) 373
 Bohlmann-Rahtz synthesis (pyridine) 369
 Borsche synthesis (cinoline) 494
 von Braun degradation 432
 Brederick synthesis
 – (imidazole) 224
 – (pyrimidine) 470

c

Cacchi synthesis (indole) 140
 Chichibabin reaction 352
 Chichibabin synthesis (indolizine) 153
 Claisen synthesis (isoxazole) 188
 Combes synthesis (quinoline) 399
 Cook-Heilbron synthesis (thiazole) 206
 Corey synthesis (oxirane) 22
 Cornforth rearrangement 171
 imino-Corey reaction 36

d

Dakin-West reaction 172
 Darzens reaction 21
 Dilthey synthesis (pyrylium ion) 302
 Dimroth rearrangement 261
 Doebner-Miller synthesis (isoquinoline) 400

e

Einhorn-Brunner synthesis (1,2,4-triazole) 270
 Erlenmeyer synthesis (azlactone) 184
 Eschenmoser sulfide contraction 28

f

- Feist-Benary synthesis (furan) 72
 Fiesselmann synthesis
 – (thiophene) 97
 – (selenophene) 107
 Fischer synthesis (indole) 142
 Friedländer synthesis (quinoline) 397
 Fürstner synthesis (indole) 133

g

- Gabriel-Isay synthesis (pteridine) 488
 Gabriel synthesis (thiazole) 207
 Gassmann synthesis (indole) 135
 Gattermann synthesis, HCN-free 509
 Gewald synthesis (thiophene) 97
 Graebe-Ullmann reaction 266
 Guareschi synthesis (2-pyridone) 384

h

- Hafner synthesis, of azulenes 304,379
 Hantzsch synthesis
 – (pyridine) 371
 – (pyrrole) 118
 – (thiazole) 204
 Heumann-Pfleger synthesis (indigo) 145
 Hinsberg synthesis (thiophene) 98
 Hoffmann-Löffler reaction 158
 Huisgen synthesis
 – (4-isoxazoline) 198
 – (pyrrole) 175
 Hurd-Mori synthesis (1,2,3-thiadiazole) 255

j

- Jacobsen epoxidation 23
 Jacobsen synthesis (indazole) 245
 Japp-Klingemann reaction 143

k

- Katritzky methodology 268
 Kenner synthesis (pyrrole) 119
 King-Ortoleva reaction 380
 Knoevenagel synthesis (coumarin) 323
 Knorr synthesis
 – (pyrazolone) 249
 – (pyrrole) 118
 – (2-quinolone) 399
 Konrad-Limpach synthesis
 (4-quinolone) 399
 Kröhnke reaction 380

l

- Ladenburg reaction, of pyridine 367
 Larock synthesis (isoquinoline) 416
 Lautens synthesis (indole) 141

van Leusen synthesis

- (oxazole) 173
 – (pyrrole) 120

m

- Madelung synthesis (indole) 137
 Marckwald cleavage, of furans 79
 Marckwald synthesis (imidazole) 224
 Meth-Cohn synthesis (quinoline) 402
 Meyer's oxazoline method 183
 Morin reaction 456
 Mukaiyama reaction 380
 Mukaiyama reagents 53, 380

n

- Neber rearrangement 31
 Nenitzescu synthesis (indole) 144
 Niementowski synthesis (quinazoline) 495

p

- Paal synthesis (thiophene) 96
 Paal-Knorr synthesis
 – (furan) 71
 – (pyrrole) 117
 Parham cycloalkylation 343
 Paterno-Büchi reaction 46
 von Pechmann synthesis (coumarin) 322
 Pellizari synthesis (1,2,4-triazole) 270
 Perkin rearrangement 82
 Pfitzinger synthesis (quinoline) 398
 Pictet-Gams synthesis (isoquinoline) 414
 Pictet-Spengler synthesis (isoquinoline) 415
 Piloty-Robinson synthesis (pyrrole) 119
 Pinner synthesis (pyrimidine) 467
 Plancher rearrangement 128
 Polonovski reaction 545
 Pomeranz-Fritsch synthesis
 (isoquinoline) 415
 Prileschajew reaction 23
 Prins reaction 452
 Pummerer rearrangement 26, 457

q

- Quilico synthesis (isooxazole) 189

r

- Regitz reaction 263
 Reissert reaction 409
 Reissert synthesis (indole) 135
 Remfry-Hull synthesis (pyrimidine) 468
 von Richter synthesis (cinnoline) 493
 Ritter reaction 442
 Robinson-Gabriel synthesis (oxazole) 171

s

- Sandmeyer synthesis (isatin) 145
- Schmidt-Druey synthesis (pyridazine) 461
- Schöllkopf synthesis (oxazole) 173
- Sharpless-Katsuki epoxidation 24
- Shaw synthesis (pyrimidine) 468
- Skraup-Doebner-Miller synthesis (quinoline) 400
- Smiles rearrangement 446
- Sommelet-Hauser rearrangement 136
- Staudinger reaction 53
- Steglich reagent (DMAP) 348
- Stork isoxazole annelation 191

t

- Thorpe-Ziegler cyclization 431
- Timmis synthesis (pteridine) 489
- Traube synthesis (purine) 476

u

- Ullmann synthesis (acridine) 426

v

- Vilsmeier-Haack reaction 97

w

- Westphal synthesis (quinolizinium ion) 421
- Wesseley-Moser rearrangement 338
- Widmann-Stoermer synthesis (cinnoline) 494
- Willgerodt-Kindler reaction 98
- Wittig reaction 329, 335

z

- Ziegler reaction 353
- Zincke reaction 356