

Subject Index

- acetyl methanesulfonate 63
β-acetylenic radicals 11
adamantane 45, 100
adenosine diphosphate 148
albene 142–144
2-alkylidene-1,3-cyclopentanediones 103
α-alkynone cyclization 141, 144, 175
allamandin 113
allamcin 112, 113
allenic ketones 9
alloisolongifolene 46
aminomethylidinoradamantane 65
anhydroryanodol 164, 167
[10]annulene 74, 89
arene-olefin photocycloaddition 30, 31,
33, 91, 94, 117, 185, 195, 203
asymmetric induction 19
azulene 63, 77
- Baeyer-Villiger oxidation 53, 125, 138
Barbier reaction 8
Beckmann rearrangement 64, 123
benzvalene 18
bicyclo[3.3.0]octadienediyl dianion 70
bicyclo[3.2.1]octa-2,6-dien-8-ylidene 50
bicyclo[3.3.0]octane-2,8-dione 6
cis-bicyclo[3.3.0]oct-3-ene-2,7-dione 61
bicyclo[6.3.0]undecane 57
1,1-bis(benzenesulfonyl)cyclopropane 5
bis(benzonitrile)palladium dichloride 52
(*E*)-1,2-bis(phenylsulfonyl)ethylene 82
(*Z*)-1,2-bis(phenylsulfonyl)ethylene 81,
101
boonein 113
brefeldin A 114
brefeldin A seco acid 114
- camphenilone 142
capnellanes 174, 206
capnellane alcohols 180
Δ⁹⁽¹²⁾-capnellene 174–179, 187, 197
Δ⁹⁽¹²⁾-capnellene-8β,10α-diol 182
Δ⁹⁽¹²⁾-capnellene-2β,5α,8β,10α-tetrol 107
Δ⁹⁽¹²⁾-capnellene-3β,8β,10α-triol 182
carbacyclin 145, 152, 157, 163
carbaprostacyclins 144
carboethoxyformonitrile oxide 80
carbocationization 10
carvone 165
8(*S*),14-cedranediol 127
cedranoids 127
α-cedrene 45, 76, 127, 129
cedrol 76
α-chloroacrylonitrile 28
2-chloroacryloyl chloride 90
chloro[(trimethylsilyl)methyl]ketene 20
chrysomelidiol 118
Claisen condensation 6
Claisen rearrangement 3, 124, 129
Claisen-ene rearrangements 36
Cope elimination 170
Cope rearrangement 78, 80, 137
copper(I) triflate 16
Corey lactone 149–152, 161
coriolin 30, 182–187, 190
crinipellin A 108
crinipellin B 108
18-crown-6 3, 7, 154
cubane 35
3-cyanoanisole 32
4-cyanoanisole 33
cyanocarbacyclins 153, 154
2-cyanochromone 14
cyclizations
–, acid-promoted 2
–, base-promoted 2
[2+2]cycloadditions 47, 137, 177, 189,
196, 206
cyclobutanones 19–21
cis,trans,trans-1,5,9-cyclodecatriene 56
cis,cis-1,3-cyclooctadiene 46
1,5-cyclooctadiene 55

Subject Index

- 1,5-cyclooctanediones 56
cyclooctatetraene 80
cyclooctatetraene dianion 70
cis-cyclooctene 33
cyclo[*a*]pentalene 10
cyclopropyldiphenylsulfonium tetrafluoroborate 53
[2+2] cycloreversion 37
- 9,11-dehydroestrone 62
Demjanow rearrangement 65
dendrobine 114
deoxygenation of alcohols 11
deoxypentalenic acid 110
deoxypentalenic acid glucuron 197
descarboxyquadrone 44, 138
N,N-dialkylchloramines 56
diazenes 53, 55
diazo compounds 16
di-tert-butyl peroxide 10
 α,α -dichlorocyclobutanones 19
trans-1,2-dichloroethylene 30
dichloroketene 19, 64
dicobalt octacarbonyl 21, 24, 183
dicyclobutylidene 41
dicyclopentadiene 23, 92
9,21-didehydroryanodine 168
Dieckmann cyclization 127
Diels-Alder reaction 15, 83, 84, 127, 129, 140, 142, 165, 177, 206
1-(diethylamino)butadiene 18
diethyl dicarbonate 53
5-*exo*-digonal closure 11
dihydrocrinipellin B 108
5,6-dihydro-6,9 α -methano-6 β -prostaglandin I₃ 159
1,2-dihydropentalene 55
1,5-dihydropentalene 50
dihydrosemibullvalenes 70
dihydroxysilphinene isovalerate 108
diimide reduction 69
diiron enneacarbonyl 52
diketocoriolin B 182
dilithioallyl phenyl sulfone 4
dilithiopentalene 69
dimethyl acetonedicarboxylate 85
dimethyl acetylenedicarboxylate 27, 84
1,5-dimethylbicyclo[3.3.0]octane-3,7-dione 61
dimethyl 3-ketoglutarate 14
1,3-dioxole 31
1,3-dioxol-2-one 31
1,2-disilyloxycyclopentenes 21
1,3-diyl trapping reaction 53, 170, 175, 187
dodecahedrane 104, 106
domino Diels-Alder 38
- electroreduction 9
epianhydroryanodol 167
epiisocomene 192
 β -epiisocomene 192–194
epiisocomenic acid 191
(\pm)-8-epiloganin 29
epiprecapnelladiene 175
9-epiryranodine 168
9-episilphiperfol-6-ene 204
9-ethynylcarbacyclin 154
- π -facial stereoselectivity 72, 83, 84
trans,trans-farnesyl pyrophosphate 110, 111
 β -fenchocamphorane 138
fenchone 138
fenestranes 91–94, 96
flash vacuum pyrolysis 38
forsythide aglycone dimethyl ester 115
fulvenes 17, 72
- C₁₉-heptaquinane 104
hexafluoro-2-butyne 50
hirsutanes 188
hirsutene 169–173, 186, 187
hirsutic acid 188–191
homopentafulvalene 34
Horner-Emmons reaction 151
Horner-Wittig cyclization 161
hydroboration 67
hydrophosphorylation 55
 γ -hydroxyalkylstannanes 70
- ikarugamycin 116
5-iodo-1-cyclooctene 56
Ireland-Claisen rearrangement 139
iridodial 117
iridoids 112, 113, 115, 118, 125
13-isobutyryloxysilphinene-3-one 108
isocaryophyllene 45
6-isocedrol 76
isocome 191, 192, 194
 β -isocomene 192
isocomenic acid 191

- isodicyclopentadienes 73, 83, 84, 85
 isoiridomyrmecin 117
 5-isopropylidenebicyclo[2.1.0]pentane 54
 10-isopropylideneisodicyclopentadiene 83
 isotriquinacenes 86, 87

 ketones,
 –, α,β -unsaturated 2, 11, 12
 –, β,γ -unsaturated 28
 –, δ,ϵ -unsaturated 12
 Koch-Haaf carboxylation 64

 lac resin constituent 107
 laurenan-2-one 111
 laurene 111
 Lemieux-Johnson oxidation 160
 loganin 118

 manganese(III) acetate 10
 Meerwein-Ponndorf-Verley reduction 111
 (–)-menthol 19
 9(0)-methano- Δ^6 -prostaglandin I 146
 9(0)-methano- $\Delta^{6,9\alpha}$ -PGI₂ 145, 149, 153
 9(0)-methanoprostacyclin 160
 6,9 α -methanoprostaglandin I₃ 157
 methoxyvinyl lithium 89
 methylene[3]peristylane 100
 MINDO/3 calculations 75, 96
 Mitsunobu reaction 125
 MM2 calculations 75, 83
 MNDO calculations 77, 80
 modhephene 206–208
 (\pm)-mussaenolide 29

 Nazarov cyclization 123
 neutron diffraction 72
 nitron-olefin cycloaddition 170, 186
 D_{3h} -(4³.5⁶)nonahedrane 102
 norbornadiene 73
 norcapnellenone 176
 norcedrenedicarboxylic acid 127, 129

 octachlorofulvene 34
 oplopanone 121
 oxa-di- π -methane rearrangement 27, 28, 206
 oxaspiropentanes 53
 5-oxosilphiperfol-6-ene 202, 203
 oxymercuration 67

 pagodane 104
 Pauson-Khand reaction 24–26, 86, 183, 190
 pentalenene 195–197
 pentalenic acid 197
 pentalenolactone 110, 130, 133, 195, 197
 pentalenolactone E 110, 130
 pentalenolactone E methyl ester 130, 133
 pentalenolactone F 108, 110, 130
 pentalenolactone G 130
 pentalenolactone H 130
 pentalenolactone O 111
 pentalenolactone P 108
 pentaspirane 41
 pentaspirohexadecanes 41
 [4]peristylane 101
 [4]peristylanedione 73
 (–)-8-phenylmenthol 19
 (phenylseleno)alanes 11
 phenylthioacetylene 24
 N-phenyltriflimide 53
 plumericin 113, 122
 polyphosphoric acid 3
 precapnelladiene 69
 presilphiperfolene diester 108
 propellanes 14, 28, 41–44, 58, 68, 135, 137, 138, 208
 prostacyclin 144, 145, 156, 162
 ptychanolide 141
 (R)-(+)-pulegone 202
 Pummerer reaction 8

 quadrone 108, 110, 133–135, 137–141

 retigeranic acid 205
 retro-Claisen reactions 6
 retro-Diels-Alder processes 52
 Ritter amidation 64
 ryanodal 167
 ryanodine 108, 164, 165
 ryanodol 164

 selenosulfonation 56
 semibullvalenes 30, 70, 78–80
 senoxydene 199–201
anti-sesquiorbornenes 73–75, 81, 85
syn-sesquiorbornenes 73–75, 81, 85
 Shapiro degradation 88, 119, 120
 Sharpless oxidation 69
 silphinene 194, 195
 silphiperfol-6-ene 202–204

Subject Index

- 7 α H-silphiperfol-5-ene 203
7 β H-silphiperfol-5-ene 203
Simmons-Smith reaction 127
singlet oxygenation 83
[1,5]sigmatropy 84, 92
[2,3]sigmatropic rearrangement 69, 160
sodium amalgam 9, 82
sodium-potassium alloy 40
- Tebbe's reagent 179
terrecyclic acid A 108, 110, 133, 138–140
tetracyanoethylene 84
tetrahydrocrinipellin A 108
4,4,5,5-tetrahydro-9(0)-methano- Δ -PGI₁ 163
13-thiacarbacyclins 157
Thorpe-Ziegler reaction 92
three-phase test 3
p-(tolylsulfonyl)acetylene 101
trialkylstannyl trifluoroacetates 53
tributylgermane 10
tri-*n*-butyltin hydride 10, 11
trichodiene 123
trichothecane 123
tricyclo[5.2.0.0^{2,8}]deca-2,5,8-triene 101
tricyclo[3.3.0.0^{2,8}]octan-3-one 62
trimethylenemethane 12
1,2-trimethylenenorbornane 45
(trimethylsilyl)allenes 13
- trimethylsilyl triflate 2
trioxa[5]peristylane 103
triquinacenes 85–88
(*D*₃)-trishomocubanes 97
tris(methylthio)methylithium 21
tris(phenylthio)methylithium 21
tris(triphenylphosphine)rhodium(I) chloride 88
tropones 47, 73, 84
twist-brendanyl cation 65
- udoteatrial 124, 125
- 1-vinyl-1-cyclobutanols 52
vinylcyclopropanes 13, 17
vinyl phosphonium salts 6, 7
- Wacker oxidation 184
Wadsworth-Emmons reaction 3, 129
Weiss-Cook condensation 14, 85, 96, 135
Wharton rearrangement 63
Wittig reaction 69, 150, 157, 160, 161, 173, 191
Wolff rearrangement 93, 104
Wolff-Kishner reduction 97, 173
- x-ray crystallography 72, 73, 80, 90, 93, 107, 164
xyломоллин 125, 126