

Index

a

- absolute configuration
- α -terpineol 51
- α -tocopherol 93–94
- biotin 218
- camphor 42–44
- cocaine 148
- colchicine 169
- ecgonine 148
- estrone 85
- luciferin 187
- lupinine 119
- lysergic acid 128–129
- muscarine 109–110
- quinine 163
- riboflavine 134
- santonine 69–71
- alicyclic compounds 7
- allobiotin 216
- α -campholenic acid 39
- ($-$)- α -isopropyl- α -methylsuccinic acid 43
- α -pyridone 195
- α -terpineol 47, 49
- α -tocopherol 87
- Amanita muscaria* 105
- Anderson, A.B. 23
- androstanes 85
- Angeli–Rimini test 106, 107
- anhydro-lupinine 114
- anti-viagra 35
- apoquinine 153
- Artemisia cina* 59
- ascorbic acid 13, 15
- atropine 139

b

- Beckmann fragmentation 39
- Beckmann rearrangement 196
- Beilsteins Handbuch der Organischen Chemie* 4, 25
- benzoyllupinine 114
- beriberi 221, 222
- β -carotene 243–244, 246–249
- β -carotenone 246–247
- β -cyperone 71
- β -ionone 244, 245
- β -thujaplicine 23–25
- biotin 209
- Blanc's rule 20, 21, 37, 41, 69, 77, 78, 154
- Bohlmann bands 118
- ($+$)-3-bromocamphor 44
- ($-$)-2-bromo- β -desmotroposantonic acid 71
- 5-bromogriseofulvin 235
- Bredt, Konrad Julius 41
- Butenandt, Adolf 76

c

- camphoric acid 37–39
- camphor tree 35
- Cannizzaro, Stanislao 60
- cantharidin 27
- carotene 243
- carvone 51
- Chamaecyparis taiwanensis* 19
- chitenine 153
- chromic acid oxidation *see under* degradation

- cincholoiponic acid 154–155, 157
 Cinchona tree 151
 cinchonine 161
Cinnamomum camphora 35
 circumtrindene 242
 citral 244
 citronellol 91
 classical structure elucidation 1
Claviceps fungi 121
Claviceps purpurea 121
Clemmensen reduction 63, 64, 79,
 213
 Clemo, George Roger 62, 64, 66, 195
 cocaine 137, 143, 148
 colchicine 168, 170, 176
 colchicine 167, 178
Colchicum autumnale 167
 combustion analyses 2
 Cook, J.W. 174, 175
 Criegee cleavage 133, 176
 curbine 198
Curtius degradation 212
Curtius rearrangement 70
Cypridina hilgendorfii 181–183
Cypridina luciferin 183
 cysteine 215, 256
- d**
- D-alloisoleucine 187
 Dauben, W.G. 33
 decacyclene 239
 decarboxylation 20, 25, 41, 50, 63, 67,
 79, 81, 82, 124, 139, 153, 154,
 188, 212, 254
 degradation 1, 6–8, 71, 119, 159
 α-terpineol 49
 camphor 38
 decacyclene 240
 griseofulvin 231–232
 oxidative 17, 175, 177, 233
 chromic acid 2, 4, 20, 23, 38, 40,
 89, 108, 139, 148, 153, 154, 157,
 234, 240, 246
 nitric acid 37, 39, 65, 123, 194,
 212, 223
 ozone 16, 20, 21, 55, 65, 69, 70,
 115, 129, 179, 246
- permanganate 15, 50, 65, 93,
 139, 153, 154, 171, 173, 176,
 197, 198, 212, 213, 225, 232,
 241, 244, 246
 penicillin F 254–255
 quinine 155, 159
 santonine 65
 dehydrogenation 7, 31, 56, 66, 70, 78,
 80, 81, 128, 156, 195, 211, 247
 deoxo-estrone 76–77
 9-deoxyquinidine 161
 desmotroposantone 61, 68, 69, 71
 Dieckmann cyclization 176, 215
 Diels–Alder addition 31, 33, 176
 dienone-phenol rearrangement 66
 dihydrolysergic acid 122, 124–125,
 127
 dinitro-strychol 195
 dioxonucidine 200
 durohydroquinone 87–88
 Dziewoński, Karol 239
- e**
- ebullioscopy 3, 240, 243
 ecgonine 138–139, 142, 143, 146–148
 ecgoninic acid 148
 Ehrlich's reagent 122
 Eijkman, Christiaan 221
 elemental composition 2
 α-tocopherol 87
 cantharidine 28
 carotene 243
 estrone 75
 hinokitiol 20
 lactaroviolin 53
 luciferin 183
 lupanine 113
 muscarine 107
 santonine 60
 (+)-epilupininic acid methyl ester 117
 epimerization 69, 71, 84, 117, 118, 125,
 126, 140, 143, 146, 155, 198, 235
 9-epiquinine 162
 equilenine 83
 ergot alkaloids 121
Erythroxylum coca 137
 estriol 77

estrone 75, 76
etioluciferin 183, 184, 186–187

f

Fischer–Hepp rearrangement 194
flavine 134
fluoresceine 101
fly agaric mushrooms 105
Fodor, Gábor Béla 144
Folin–Denis test 99
Folkers, Karl 215
Friedel–Crafts cyclization 56, 63, 64, 78, 80, 81, 128
fuchsine/sulfurous acid test 106
functional groups 3–7
furfural 14

g

Gadamer, Johannes Georg 29
geronic acid 245
glycidyl-ester methodology 248
glycol cleavage 20, 24, 49, 78, 134, 175, 177
Goto, Toshio 186
Grewe, Rudolf 173
griseofulvic acid 230
griseofulvin 229
Grove, John Frederic 229
guaiane 54

h

haloform cleavage 49
haloform degradation 40
Hardegger, Emil 110, 148, 179
Hell–Volhard–Zelinsky bromination 37
Herzig/Meyer determination of N-methyl 108, 114, 115, 122
Herzig–Meyer procedure 114
hexahydro-colchicine 177
hinokitine 20
hinokitiol 19, 20
Hofmann degradation 106, 108, 114, 115, 141, 198–199
Hofmann elimination 117, 142, 147, 172, 173
homogeneity 2

Hunsdiecker degradation 43
hydroluciferin 186, 188
6-hydroxyquinoline 153
hyposantonine 62, 68–70

i

indophenol test 102
iodoform test 49, 50, 224, 233, 245
iron(III) color test 15, 20, 97, 101, 107, 167, 231
IR spectroscopy, lupinine 118
isocamphoronic acid 40
iso-equilenine 83
isogriseofulvin 230, 234
isohyposantonine 69
isoleucine 187
isolysergic acid 125–126
isonitroso-camphor 36
isoprene rule 248
3-isopropylcyclohexanone 25, 26

j

Jacobs, W.A. 124

k

Karrer, Paul 54, 90, 91, 115, 119, 131, 134, 244, 246
ketomuscarine 109
ketones, nitrosation of 36, 159, 196
Kishi, Yoshito 185
Kögl, Fritz 106, 209
KOH fusion reaction 61, 71, 108, 122, 195
Komppa, Gustaf 42
Königs, Wilhelm 156
Kuhn, Richard 98, 131, 134, 246
Kuhn–Roth oxidation 89, 98, 101, 132, 232, 244, 254, 256

l

Lactarius deliciosus 53
lactaroviolin 53
lactoflavine 131
L-arabinose 109
Leuchs, H. 193, 197, 198
L-isoleucine 187

Lossen, Wilhelm Clemens 139
 luciferin 181, 187
 lumiestrone 83–84
 lumiflavine 133
 lupinine 113, 119
Lupinus luteus 113
 lysergic acid 121
Lytta vesicatoria 27, 29

m

marrianolic acid 77, 79
 meroquinene 155, 157
 meso compound 30, 92
 4-methylnonane 119
 4-methylthiazole-5-carboxylic acid 223
 Millon test 76–77, 232
 molecular formula 3
 Molisch test 14
 muscarine 105

n

N-acetylcolchinol methyl ether 172, 178
N-acetyl-iodo-colchinol 170–171, 173
 ninhydrine test 209, 210, 254
 nitroprusside test 223, 254
 normuscarine 108
 Nozoe's hinokitiol synthesis 22
 Nozoe, Tetsuo 19, 23

o

o-xylene 29
 oxyluciferin 183, 187–188

p

Pb(OAc)₄-mediated degradation 133, 175
 penicillin F 253–254
Penicillium griseofulveum 229
Penicillium notatum 253, 254
 per-methylated ascorbic acid 16–17
 phthaleine reaction 101
 ψ -ionone 244
 ψ -tropine 140
 Prelog, Vladimir 160, 162, 163, 193, 201
 pyridoxine 97–99, 101

q

quasi-racemate 43
 quantitative combustion analysis 2
 quinene 155, 158
 quinidine 161
 quinine 151, 161
 quinic acid 153–154

r

Rabe, Paul 157, 158
 racemate problem 38, 62, 65, 67, 72, 82
 racemic desmotroposantone acid 62
 racemization 62, 67, 117
 rate of saponification 127
 relative configuration 15, 32, 68, 71, 85, 92, 109, 118, 126, 134, 143, 145, 146, 160, 161, 215–218
 retro Diels–Alder cleavage 31
 riboflavin 131
 Robinson, Robert 192, 197, 199, 200

s

Sakaguchi test 183, 184, 186, 223
 St. Anthony's Fire 121
 santonin 59
 santonic acid 60
 Schöpf, Clemens 117
 scurvy 13
 Se-dehydrogenation 7, 66, 79, 80
 seborrheic dermatitis 97
 sesquiterpene 53
 Shimomura, Osamu 183
 Skraup test 99, 100, 154, 157
 Skraup, Zdenko Hans 152
 Spanish fly 27, 28
 stereochemistry 2, 8
 ascorbic acid 16
 biotin 216
 camphor 42–44
 cantharidine 31–33
 cocaine 143–146
 estrone 83–84
 griseofulvin 234
 luciferin 187
 lupinine 118
 lysergic acid 125–126, 128
 quinine 160–161

santonine 62–63, 67–68
 α -tocopherol 93
 stereoconvergence 64
 stereoselective synthesis 8–9
 Stoll, Arthur 124, 125
 structure theory 1, 2
 strychnine 191
 basic N-atom reactions 198
 ether ring 195
 indole nucleus 194
 lactam 195
 permanganate degradation 197
 rings IV, V, and VI 200
 strychninolone-a 198, 201
 Strychnos alkaloids 193, 199
 Strychnos nux-vomica 191
 Szent-Györgyi, Albert 13

t

Tafel, J. 193, 195
 Taiwan cypress 19
 Täufel–Thaler test 230
 terpene 47, 89
 terpenyllic acid 50, 51
 α -terpineol 47
 2,3,4,7-tetramethoxy-phenanthrene-10-carbaldehyde 176
 thiamine 221, 222
 thiazolidine 258
Thuja plicata 24
 tocopherylhydroquinone 88
trans-decalin systems 126
 2,3,4-trihydroxybutanoic acid 15
 trimethylcolchicinic acid 168, 171
 tropidine 140
 tropinone 139–140, 142
 tropolone 21, 177, 178

v

van Slyke test 210, 254
 van Urk test 122
 Vigneaud, Vincent du 214
 vitamin B₁ 221

vitamin B₂ 131
 vitamin B₆ 97, 101
 vitamin C 13
 vitamin E 87
 von Braun degradation 145

w

Wallach, Otto 48
 Weerman degradation 17
 Wieland, Heinrich Otto 192, 202
 Williams, Robert R. 224
 Willstätter, Richard 114, 141, 148
 Windaus, Adolf 168, 171, 174
 Windaus's colchicine formula 174, 177
 Wittig reaction 249
 Wöhler, Friedrich 138
 Wolff–Kishner procedure 76
 Woodward, R.B. 32, 127, 193, 199

x

X-ray crystal-structure
 biotin 218
 camphor 44
 cantharidin 33
 carotene 249
 colchicine 178
 estrone 85
 griseofulvin 235
 lupinine 119
 lysergic acid 128
 muscarine 109
 penicillin F 258
 quinine 163
 santonine 71

z

Zeisel, Simon 167, 169
 Zeisel's methoxy group
 determination 107, 169,
 229–231
 Zerewitinoff test 15, 88, 101, 133
 Zn-dust distillation 7, 60, 61, 78, 140,
 172, 202

