Bioorganic Chemistry'

Subject Index-Volume 2

A

Absolute configurations,

hydroxycitric, fluorocitric and isocitric acids, 2, 301

N-Acetylcysteine,

interaction with adenochrome, 2, 191

N-Acetylpenicillamine,

interaction with adrenochrome, 2, 191

Acetylation-deacylation mechanism,

reaction of tertiary amino alcohols with active esters, 2, 202

Adrenochrome.

interaction with N-acetylcysteine, N-acetylpenicillamine, thiol amino acids, 2, 191

Aflatoxin B_1 ,

interaction with electron-donors, 2, 77

Alcohol,

amino, reaction with active esters, 2, 221

tertiary amino, reaction with active esters, 2, 202

Alicyclic cations,

cyclization, 2, 248

Amide bond,

medium effects on rotation, 2, 111

Amino acids,

thiol-containing, interaction with adrenochrome, 2, 191

Aminochromes,

thiol interaction, 2, 191

Aromatic amino acids,

aflatoxin B₁ interaction, 2, 77

ATP,

hydrolysis and synthesis, 2, 179

nonenzymatic hydrolysis, 2, 145

ATP citrate lyase,

substrate stereochemistry, 2, 301

В

Biogenesis,

possible role of hydrogen cyanide, 2, 95 terpenoid, model studies, 2, 246

Biosynthesis,

corrin, 2, 155

¹ Boldface number indicates volume; lightface number indicates pagination.

ergosta-4,5,8(14),22-tetraen-3-one, 2, 163

patulin (II), 2, 124

vitamin B_{12} , 2, 155

 \boldsymbol{C}

Carapa guianensis Aubl.,

constituents, 2, 59

Carbonic anhydrase,

mechanism of action, 2, 337

Catalysis,

cation, acylation of amino alcohols by metal

ions, 2, 221

histidine phosphorylation, 2, 1

mutarotation of 2,3,4,6-tetramethyl- α -D-

glucose by 2-pyridone, 2, 39

Catalytic function,

polyamines, 2, 145

Chemical shifts,

hydroxymethyl imidazole with temperature, 2,

235

Conformational analysis,

applied to olefin cyclizations, 2, 248

Corrin,

biosynthesis, 2, 155

Citrate analogs,

absolute configurations, 2, 301

Citrate derivative,

reaction with citrate enzyme, use of (pncit)-

system, 2, 301

Citrate enzyme,

substrates and inhibitors, active site stereo-

chemistry, 2, 301

 \mathbf{D}

Deoxyribonucleic acid.

chemical synthesis of tetradecamer, 2, 322

Dialkylbenzene,

microbial oxygenation, 2, 99

Dihydroxyacetone,

dimer-monomer equilibrium and structure, 2,

197

E

Electron donors,

aflatoxin B₁ interaction, 2, 77

Electrophilic olefins,

homogeneous reduction, 2, 293

p-Hydroxyphenylpyruvate, Endoperoxide, hemogentisate, involvement of, 2, 176 biotransformation, phenolic stability, 2, 176 p-Hydroxyphenylpyruvic-4-18O acid, Enzymic catalysis, covalent enzyme participation in homogeneous synthesis, 2, 176 and heterogeneous catalysis, 2, 311 Enzymic transfer, ľ double-displacement, mechanism, 2, 311 $1\alpha, 2\alpha$ -Epoxy- 17β -hydroxy- 5α , and rostan-3-one, Imidazaole, mono- and dihydroxymethyl derivatives, 2, 235 enzymatic reduction effect, 2, 73 reaction with formaldehyde, 2, 235 Ergosta-4,6,8(14),22-tetraen-3-one, biosynthesis, 2, 163 Infrared spectra, Ergosterol, dihydroxyacetone, 2, 197 Saccharomyces cerevisiae biosynthesis of, 2, 363 Escherichia coli, M model, active center, peptidyl transferase, 2, 286 ribosomal peptidyl transferase inhibitors and Melanoprotein, substrates, 2, 266 formation, 2, 191 6-Methylsalicylic acid, active, tertiary amino alcohols, acetylationbiosynthesis of patulin II, 2, 124 deacylation mechanism, 2, 202 Molecular mechanism, active, reaction with amino alcohols, 2, 221 ribosomal peptidyl transferase action, inhibitors and substrates, 2, 286 Monohydroxymethylimidazole, F symmetry, 2, 235 Mutarotation, Flavins. 2-pyridone catalyzed, 2, 39 oxidation of pyruvic acid, 2, 11 Formaldehyde, reaction with imidazole, 2, 235 N NADH model, G mechanism of coenzyme-mediated reduction, 2, 293 Glucose, phosphorylation, 2, 1 NADP+. hydrogen transfer, 2, 140 Nomenclature, Н parent numbering system, 2, 301 Nuclear magnetic resonance spectra, Heptapeptide, dihydroxyacetone, 2, 197 synthesis, 2, 345 N-hydroxymethyl derivatives, 2, 235 Histidine, catalysis of phosphorylation, 2, 1 Homogentisate, 0 p-hydroxyphenylpyruvate, enzymatic conver-Olefin cyclizations, sion, 2, 176 stereochemistry, 2, 248 Hydrogen, stereochemistry of transfer to NADP+, 2, 140 Oxidation, porphyrin complexes, 2, 44 Hydrogen cyanide, pyruvic acid by flavins and amines, 2, 11 possible role in origins of life, 2, 95 Hydrolysis. nonenzymatic, ATP, 2, 145 P selective, ATP with polyamines, 2, 145 Hydroxymethyl imidazole, Patulin (II), biosynthesis from 6-methylsalicyclic acid in chemical shifts with temperature, 2, 235

Penicillium patulum cultures, 2, 124

biosynthesis of patulin II, 2, 124

Penicillium patulum,

 17β -Hydroxy- 1α , 2α -methylene- 5α -androstan-

enzymatic reduction effect, 2, 73

3-one,

Penicillium rubrum, ergosterol epidooxide, incorporated, 2, 163 S-peptide analog. DNA duplex, 2, 322 Peptide bond rotation, physiochemical effects, 2, 111 Phosphotriesters, nucleoside, 2, 322 Phosphorothioates. nucleoside S-alkyl, 2, 322 Phosphorylation, histidine, 2, 1 Polyamines, ATP-hydrolysis with, 2, 145 Poly- β -(ν -glutamyl)-aspartic acid. synthesis and conformational studies, 2, 65 Porphyrin, complexes, redox properties, 2, 44 derivatives, oxidative-reduction properties, 2, 44 Proton transfer. rate in solution, 2, 337 Pyrophosphate, ATP reaction mechanisms, 2, 179 Pyruvic acid, oxidation by flavins and amines, 2, 11

R

Ribosomal peptidyl transferase, active center, substrate site, **2**, 286 inhibitors, antibiotics, molecular mechanism, **2**, 266

S

Sporotrichum sulfurescens,
dialkylbenzenes, microbial oxygenation, 2, 99
Stereochemistry,
biogenetic-like olefin cyclization, 2, 248
hydrogen transfer to NADP+, 2, 140
pyrophosphate hydrolysis, ATP hydrolysis and
synthesis, 2, 179
Substrates,
ribosomal peptidyl transferase binding site, 2,
286
Synthesis,
ATP, 2, 179

heptapeptide, 2, 345

p-hydroxyphenylpyruvic-4-¹⁸O acid, **2**, 176 poly- β -(γ -glutamyl)-aspartic acid, **2**, 65 *N*-terminal hexapeptide, **2**, 87 vasoactive intestinal peptide, **2**, 30, 87

T

C-Terminal cyanogen bromide fragment. vasoactive intestinal peptide, 2, 30 N-Terminal hexapeptide, synthesis, 2, 87 Terpenes, biosynthesis, 2, 363 Terpenoid biogenesis, model studies, 2, 248 2,3,4,5-Tetramethyl-α-D-glucose, 2-pyridone-catalyzed mutarotation, 2, 39 Transferase reactions, covalent enzyme-substrate intermediates. entropic difficulties, 2, 311 Triethanolamine, catalysis of acylation by metal ions, 2, 221

IJ

Ultraviolet spectra, dihydroxyacetone, 2, 197

V

synthesis, 2, 30, 87, 345 terminal sequence, 7-13, 2, 345 14-28, 2, 354 Vicinal oxo group, enzymatic reductation, 2, 73 Vitamin B₁₂, biosynthesis, 2, 155

Vasoactive intestinal peptide (VIP)

Y

Yeast sterol, biosynthesis, 2, 363

Z

Zinc ions, ligand displacement, 2, 337