

Subject Index¹

Volume 7

A

- Acinetobacter calcoaceticus*
catechol 1,2-dioxygenase from, **7**, 115
- Adenosine nucleotides
3'-amino analogs: substrate recognition by phosphohydrolases, **7**, 35
- Adenosine triphosphatase
inhibition by [D-MeAla¹]-tentoxin, **7**, 207
- Alkyl aryl sulfates
reactivity towards papain and ficin, **7**, 1
- Alkylation
of papain and ficin, **7**, 1
- Allenes
in cationic cyclizations, **7**, 221
electrophilic addition to, **7**, 221
- Amines
monofunctional, difunctional, and trifunctional: dihydroxyacetone ionization catalysis by, **7**, 141
- Amino acids
racemization by ionizing radiation, **7**, 175
radiolysis, **7**, 175
- α -Amino acids
formation, **7**, 111
- β -Amino acids
degradation, **7**, 111
- γ -Amino acids
degradation, **7**, 111
- 8-(6-Aminohexyl)-aminoadenosine 5'-mono-phosphate
nuclear magnetic resonance, **7**, 57
- 3-Aminopicolinate
effect on phosphoenolpyruvate carboxykinase, **7**, 251
- An appreciation
William Summer Johnson, **7**, 121
- Antibiotics
polyetherin: monensin free acid, solution conformation, **7**, 47
- Antileukemic action
2-haloethylnitrosoureas, **7**, 97
- Antitumor
activity, 1,4-benzoquinone analogs of coenzyme Q₁₀, **7**, 333

B

- Benzo[a]pyrene
syn and *anti* dilepoxides, chemical reactivity and biological activity, **7**, 497
- 1,4-Benzoquinones
analogs of coenzyme Q₁₀: synthesis, enzyme inhibition, and antitumor activity, **7**, 333
- Biogenetic-type synthesis
linalyloxides, **7**, 215
- Biomembranes
damage by superoxide, **7**, 77
- Biosynthesis
corrins, **7**, 161
protein, peptidyl transfer reaction, **7**, 303
Securinega alkaloids, **7**, 277
vitamin B₁₂, relation of isobacteriochlorins, **7**, 161

C

- Carbonic anhydrase B
erythrocyte: metal-binding peptide fragment, synthesis (human), **7**, 313
- Catalysis
imidazole, *p*-nitrotrifluoroacetanilide hydrolysis, **7**, 133
polyfunctional, dihydroxyacetone phosphate ionization, **7**, 141
by serine proteases, hydrogen bonding in mechanism of, **7**, 69
water, *p*-nitrotrifluoroacetanilide hydrolysis, **7**, 133
- Catalysts
enzymatic, polypeptide models of, **7**, 313
- Catechol 1,2-dioxygenase
from *Acinetobacter calcoaceticus*, circular dichroism, **7**, 115
- Chlorophyll
-derived nitroxide spin labels, synthesis and properties, **7**, 409
- Cholesterol
alkyl derivatives, effect on permeability and microviscosity of membranes, **7**, 437

¹ Boldface numbers indicate volume: lightface numbers indicate pagination

- Chymotrypsin
 -catalyzed hydrolysis, hydrogen bonding in mechanism of, 7, 69
 in mechanism of action of methyl chymotrypsin, 7, 15
- Circular dichroism
 catechol 1,2-dioxygenase, 7, 115
- CNDO/2
 molecular orbital theoretical calculations, application to *syn* and *anti* diolepoxides of benzo[*a*]pyrene, 7, 497
- Coenzyme Q₁₀
 antitumor analogs, 7, 333
- Conformation
 of nucleotide, dehydrogenase inhibition, 7, 57
- Conformations
 cyclic tetrapeptide, biological activity of, 7, 207
- Contact glow discharge electrolysis
 α -amino acid formation by, 7, 111
- Corrins
 biosynthesis, 7, 161
- Cupric-amine
 complexes, chiral, 7, 397
- Cyclic tetrapeptide
 two conformations of, 7, 207
- Cyclizations
 cationic, allenes in, 7, 221
- Cycloamylose-substrate
 complexation, thermodynamics, 7, 263
- Cytochrome *c*
 reduction by glutathione, catalysis of, 7, 481

D

- Deaminases
 nucleoside, potential transition state analogs for, 7, 421
- Deesterification
 phospholipids, by superoxide, 7, 77
- Defensive secretion
 onchidal (mollusk), 7, 125
- Degradation
 β - and γ -amino acids, 7, 111
- d*-Dehydrogriseofulvin
 formation, 7, 397
- Deuterium
 D₂O solvent isotope effect, 7, 133
 isotope effect, methyl chymotrypsin mechanism of action, 7, 15
- Dihydrosecurinine
 formation from securinine, 7, 277
- Dihydroxyacetone phosphate
 ionization, catalysis by polyfunctional amines, 7, 141

- Diolepoxides
syn and *anti*, of benzo[*a*]pyrene: structure, 7, 497
- Dipeptides
 L-D configurations, proximity of side chains, 7, 447
- Discharge
 glow, degradation of β - and γ -amino acids by, 7, 111
- Disulfides
 catalysis of, in cytochrome *c* reduction, 7, 481
- DNA
 action of 2-haloethylnitrosoureas on, 7, 97
 interstrand cross-linking of, 7, 97
 photoinduced cross-linking by psoralen, 7, 85
- 2,4-Dodecadienoates
 juvenile hormone activity (insect), 7, 235

E

- Electrolysis
 contact glow discharge, α -amino acid formation by, 7, 111
- Electron transport
 inhibition, 7, 207
- Enzyme
 inhibition, 1,4-benzoquinone analogs of coenzyme Q₁₀, 7, 333
 models, 7, 141
- Epoxidation
 selective, new method, 7, 215
- Erythrocytes
 carbonic anhydrase B: metal-binding peptide fragment, synthesis (human), 7, 313
- Ethyl (*E*)-3,5-ethano-7,11—dimethyl-2,4-dodecadienoate
 growth regulator (insect), 7, 235
- Extinction coefficient
 sulfonyldiazo compounds, 7, 189

F

- Ferrous ion
 in phosphoenolpyruvate carboxykinase activation, 7, 251
- Ficin
 inhibition, by alkyl aryl sulfates, 7, 1
- Furocoumarins
 photoreaction with nucleic acids, 7, 85

G

- Gene
 transfer RNA
 promoter of, 7, 351

Gene *continued*transfer RNA *continued*

synthesis, 7, 351

transcription, 7, 351

Genetic code

problem, elucidation, and properties, 7, 351

Glow discharge

degradation of β - and γ -amino acids by, 7, 111

Glutathione

cytochrome *c* reduction by, 7, 481

Growth

regulator (insect) 7, 235

H

2-Haloethylnitrosoureas

antileukemic action, 7, 97

Hydrocarbon

short side chains, of sterols: occurrence and origins (marine invertebrates), 7, 453

Hydrogen bonding

differential: by proteases, mechanism, 7, 69

Hydrolysis

p-nitrotrifluoroacetanilide, catalyzed by water and imidazole, 7, 133

Hydrophobic bond

Nemethy-Scheraga theory, cycloamylose-substrate binding, 7, 263

Hyperglycemia

caused by 3-aminopicolinate (guinea pig), 7, 251

I

Imidazole

-catalyzed *p*-nitrotrifluoroacetanilide hydrolysis, 7, 133

Insect

growth regulator, 7, 235

juvenile hormone analogs, 7, 289

Ionization

of 8-(6-aminohexyl)-aminoadenosine 5'-mono-phosphate, 7, 57

dihydroxyacetone phosphate, catalysis by poly-functional amines, 7, 141

Ionophore

monensin free acid, solution conformation, 7, 47

Isobacteriochlorins

relation to vitamin B₁₂ biosynthesis, 7, 161
from sulfite reductase enzymes, 7, 161

J

Juvenile hormone

activity (insect), 7, 235

analogs, synthesis (insect), 7, 289

L

l-Licarin A

formation, 7, 397

Linalyloxides

biogenetic-type synthesis, 7, 215

Lipophilic media

monensin free acid, solution conformation, 7, 47

Liver

phosphoenolpyruvate carboxykinase from (guinea pig, rat), 7, 251

M

Media

lipophilic: monensin free acid, solution conformation, 7, 47

Membranes

model, effect of sterol derivatives, 7, 437

Mercapto enzymes

interaction of tumor inhibitors with, 7, 273

3-Mercaptopicolinate

effect on phosphoenolpyruvate carboxykinase, 7, 251

Methyl chymotrypsin

mechanism of action 7, 15

 α -Methyl-2'-hydroxychalcones

oxidation with thallium (III) nitrate, 7, 493

2-Methylisoflavones

synthesis, 7, 493

Model

membranes, effect of sterol derivatives, 7, 437

template directed, for peptidyl transfer reaction, 7, 303

Mollusk

opisthobranch, *Onchidella binneyi*: defensive secretion 7, 125

Monensin

free acid, solution conformation 7, 47

N

p-Nitrophenyl *p*-toluenesulfonyldiazoacetate reagent for photoaffinity labeling, 7, 189*p*-Nitrotrifluoroacetanilide

hydrolysis, catalyzed by water and imidazole, 7, 133

Nitroxide

spin labels, chlorophyll-derived: synthesis and properties, 7, 409

Nuclear magnetic resonance

¹H

8-(6-aminohexyl)-aminoadenosine 5'-mono-phosphate, 7, 57

monensin free acid, solution conformation, 7, 47

- Nuclear magnetic resonance *continued*
 spectra, somatostatin conformation, 7, 447
- Nucleic acids
 photoreaction of furocoumarins with, 7, 85
 synthesis of biologically functional gene, 7, 351
- Nucleophile
 biological, role of superoxide anion as, 7, 77
- Nucleotide
 alkylamino, ^1H nmr, 7, 57
- Nucleotides
 3' modified, substrate recognition by phosphohydrolases, 7, 35
- O**
- Olefination
 reaction, Wittig: in synthesis of juvenile hormone analogs (insect), 7, 289
- Onchidal
 isolation and structure (mollusk), 7, 125
- Optical activity
 origin by β -decay mechanism, 7, 175
- P**
- Papain
 inhibition, by alkyl aryl sulfates, 7, 1
- Peptide
 conformation
 biologically active, 7, 447
 solvent dependence, 7, 447
- Peptides
 cyclic, two conformations of, 7, 207
 metal-binding: synthesis, solid phase. 7, 313
- Peptidyl transferase
 template directed model, 7, 303
- pH
 independent region, *p*-nitrotrifluoroacetanilide hydrolysis, 7, 133
- Phenol
 coupling, asymmetric oxidative: biomimetic, 7, 397
- Phosphapurines
 in transition state analogs, 7, 421
- Phosphapyrimidines
 in transition state analogs, 7, 421
- Phosphate esters
 types, 7, 351
- Phosphoenolpyruvate carboxykinase
 liver, effects of pyridine carboxylate (guinea pig, rat), 7, 251
- Phosphohydrolases
 substrate recognition by, 7, 35
- Phospholipids
 deesterification, by superoxide, 7, 77
- Photoaffinity labeling
 at long wavelengths, 7, 189
 of thiols, 7, 189
- Photoreaction
 psoralen and other furocoumarins with nucleic acids, 7, 85
- Plants
Securinega suffruticosa, alkaloids: biosynthesis, 7, 277
- Polyetherin antibiotics
 monensin free acid, solution conformation, 7, 47
- Polynucleotides
 chemical synthesis, 7, 351
- Polypeptide
 models, of enzymatic catalysts, 7, 313
- Proteases
 serine: mechanism of catalysis by, hydrogen bonding in, 7, 69
- Protein
 biosynthesis, peptidyl transfer reaction, 7, 303
- Proton magnetic resonance, *see* Nuclear magnetic resonance, ^1H
- Psoralen
 photoreaction with nucleic acids, 7, 85
- Purines
 phosphorus-containing, synthesis, 7, 421
- Pyridine carboxylate
 effects on phosphoenolpyruvate carboxykinase, 7, 251
- Pyrimidines
 phosphorus-containing, synthesis, 7, 421
- Q**
- Quinolate
 effect on phosphoenolpyruvate carboxykinase, 7, 251
- R**
- Racemization
 amino acids, by ionizing radiation, 7, 175
- Radiolysis
 amino acids, 7, 175
- Reactivity-selectivity
 correlations: alkyl aryl sulfates, reactivity towards papain and ficin, 7, 1
- RNA
 transfer
 gene, 7, 351
 suppressor, 7, 351
 for tyrosine, 7, 351

S

- Secretion
 defensive, onchidal (mollusk), 7, 125
- Securinine
 biosynthesis, 7, 277
- Serine proteases
 mechanism of catalysis by, hydrogen bonding in, 7, 69
- Sesquiterpene-monocyclofarnesane
 derivative: onchidal, isolation and structure (mollusk), 7, 125
- Solution conformation
 monensin free acid, 7, 47
- Somatostatin
 analogs, conformation, 7, 447
- Spin labels
 chlorophyll-derived nitroxide, synthesis and properties, 7, 409
- Sterols
 derivatives, effect on membranes, 7, 437
 short hydrocarbon side chains, occurrence and origins (marine invertebrates), 7, 453
- Structure-activity
 correlations: 3'-modified nucleotides, substrate recognition by phosphohydrolases, 7, 35
- Substrate
 specificities, phosphohydrolases, 7, 35
- Sulfite reductases
 isobacteriochlorins from, 7, 161
- Superoxide
 in dimethyl sulfoxide, 7, 77
 phospholipid deesterification by, role as biological nucleophile in, 7, 77
- Synthesis
 1,4-benzoquinone analogs of coenzyme Q₁₀, 7, 333
 biogenetic type, linalyloxides, 7, 215
 biologically functional gene, 7, 351
 decalins and hydrindanes, 7, 221
 juvenile hormone analogs (insect), 7, 289
 metal-binding peptide fragment of carbonic anhydrase B (human), 7, 313

T

- [D-MeAla¹]-Tentoxin
 two conformations, different biological activities of, 7, 207

- Tetrahedral intermediate
 in methyl chymotrypsin mechanism of action, 7, 15
- Thallium (III) nitrate
 α -methylchalcones, oxidation with, 7, 493
- Thermodynamics
 cycloamylose-substrate complexation, 7, 263
- Thiols
 cytochrome *c* reduction by, 7, 481
- Thujaketonic acids
 α and β , derivatives: in synthesis of juvenile hormone analogs (insect), 7, 289
- Thujone
 chemistry, 7, 289
- Thymidine nucleotides
 3'-azido or 3'-amino analogs: substrate recognition by phosphohydrolases, 7, 35
- p*-Toluenesulfonyldiazoacetates
 reagents for photoaffinity labeling, 7, 189
- p*-Toluenesulfonyldiazoacetyl chloride
 reagent for photoaffinity labeling, 7, 189
- Transition state
 analogs, phosphorus derivatives as, 7, 421
- Trisulfides
 catalysis of, in cytochrome *c* reduction, 7, 481
- Tumor
 inhibitors, SH-alkylating, 7, 273
- Tyrosine
 incorporation into securinine, 7, 277

V

- Vitamin B₁₂
 biosynthesis, relation of isobacteriochlorins, 7, 161

W

- Water
 -catalyzed *p*-nitrotrifluoroacetanilide hydrolysis, 7, 133
- Wolff
 rearrangement in photoaffinity labeling, 7, 189