Subject Index¹

Volume 8

S-Acetamidomethyl-L-cysteine synthesis, improved, 8, 429

Acetate

 $[1^{-13}C]$ -, $[2^{-13}C]$ -, and $[1,2^{-13}C]$ -: enrichments, in structures and biosynthesis of tetronic acid metabolites (Penicillium multicolor), 8, 311

Acetinimidoyl-bradykinin

amino acids and peptides, structure-activity studies, 8, 333

a-Aceto-a-hydroxybutyrate

synthesis, configuration, and enzymatic specificity, 8, 175

α-Acetolactate

synthesis. configuration, and enzymatic specificity, 8, 175

Acetolactate decarboxylase

stereospecificity of valine and isoleucine biosynthesis, 8, 175

N-a-Acetylhistidine

azo coupling, 8, 25

Acetyl-histone peptide

synthetic, 8, 409

N-α-Acetyllysine

azo coupling, 8, 25

Na-Acetyl-4-nitro-L-histidine

acid-base properties, 8, 59

Nα-Acetyl-4-nitro-L-histidine methyl ester acid-base properties, 8, 59

N-a-Acetyltyrosine

azo coupling, 8, 25

Acid-base

properties of histidines, 8, 59

Acyl

transfer reactions, of 4-nitrophenyl 5-nitrosalicylate, 8, 45

Affinity chromatography

synthetic peptide purification, 8, 409

β-Alanyl-bradykinin

amino acids and peptides, structure-activity studies, 8, 333

Alanylproline

derivatives basis for optimization of activity, inhibitors of pancreatic elastase (swine), 8, 299

Alkali

aqueous, water-soluble porphyrins in, 8, 69

Allylsilane

cyclization termination by, 8, 513

Amides

acyl alanylproline, inhibitors of pancreatic elastase (swine), 8, 299

Amines

cleavage of β -cyclodextrin trans-cinnamate, nucleophilic accleration, 8, 249

Amino acids

reactivity in azo coupling reaction, effect of pH, 8, 25

structure-activity studies in bradykinin series, synthesis of analogs modified in position, 8, 333

Amino groups

heterocyclic, conversion of guanosine into its 2-N-methyl- and 2-N,2-N-dimethyl derivatives, 8, 339

ε-Amino groups

reactive species, 8, 25

Aminomethylbilanes

interaction with enzymes, 8, 451

Announcement

Miles Int. Symp., 12th: polypeptide hormones, 8, 139, 289

Antitumor

agent, carminic acid, 8, 17

Apoferredoxin

synthesis, two tetradecapeptides comprising half the sequence (Clostridium butyricum), 8, 371

Arylamine

oxidation by chloroperoxidase, 8, 91

Arylsulfatase

substrate, p-nitrocatechol sulfate, 8, 205

coupling reaction, effect of pH on amino acid reactivity in, 8, 25

R

Binding

carboxylate anions, in cyclohexaamylose cavity, 8, 263

ions, competitive, 8, 283

¹ Boldface numbers indicate volume; lightface numbers indicate pagination.

Biosynthesis porphyrins, type III, 8, 451 uroporphyrinogen-III, 8, 451 4-ylidenetetronic acids, 8, 311 Borohydride reduction, methylation of heterocyclic amino groups, 8, 339 Bradykinin structure-activity relations, 8, 333 Brain gastrin distribution, review, 8, 497 lateral ventricle, high biological potency of enkephalin analogs (rat), 8, 255 N-a-t-Butoxycarbonyl polyamide method of solid phase peptide and oligonucleotide synthesis, 8, 351	Collagen peptides, enzymatic conversion of proline residues to hydroxyproline residues, 8, 219 Corn Texas Male sterile cytoplasm, characterization of pathotoxin (Helminthosporium maydis), 8, 391 Cosynthetase function, in uroporphyrinogen-III biosynthesis, 8, 451 Cyanoacetic acid decarboxylation by cycloamylose, 8, 237 Cyclic GMP esterification, 8, 9 methylation, 8, 9 Cyclizations
ongonucicodae synthesis, a, 551	biomimetic, 8, 513
C	Cycloamyloses correlation analysis with ligand interactions, 8, 237
Carbamoyl-bradykinin	substrate binding, steric and electronic
amino acids and peptides, structure-activity studies, 8, 333 Carbon-13 nuclear magnetic resonance spectra of vitamin B ₆ compounds, aqueous solution of equilibria	evaluation, 8 , 263 Cyclodextrin formation of inclusion compounds of stable nitroxide radicals as monitored by electron- spin resonance spectra, 8 , 211
and determination of acid dissociation constants, 8, 191	β-Cyclodextrin <i>trans</i> -cinnamate nucleophilic acceleration of cleavage by amines,
Carboxylate	8, 249 Cyclohexaamylose
anion, binding in cyclohexaamylose cavity, 8, 263	cavity, steric and electronic evaluation of carboxy- late anion binding, 8, 263
Carminic acid antitumor action, 8, 17	Cytoplasm
polarography, 8 , 17	Texas male sterile, pathotoxin affecting corn with, 8, 391
reactions with DNA, 8, 17	, , , , , , , , , , , , , , , , , , ,
Catalysis intramolecular, solvent isotope effects in, 8, 45	
Cellulases	
synthetic substrates for, 8, 147	D
Chalcone isomerase	Deacetylation
mechanism of action (soybean), 8, 1	histone, mechanism, 8, 409
4-Chloronitrosobenzene nonmicrosomal production of <i>N</i> -(4-chloro-	Deaminase
phenyl)glycolhydroxamic acid by liver	function, in uroporphyrinogen-III biosynthesis, 8, 451
homogenates (rat), 8, 227	Decarboxylation
Chloroperoxidase	catalytic: 6-nitrobenzisoxazole-3-carboxylate by
arylamine oxidations by, 8, 91	polyethylenimine derivatives, effect of added
N-(4-Chlorophenyl)-glycolhydroxamic acid	anions, 8 , 283
nonmicrosomal production from 4-chloronitro-	Deuterium
sobenzene by liver homogenates (rat), 8,	-labeled porphyrins, 8 , 485
227 Clostridium butyricum	Deuteroporphyrin derivatives
apoferredoxin synthesis, two tetradecapeptides	dimerization constants, 8 , 69 Diacetylated histone H4-(1-37)
·,	

synthesis, **8**, 409

comprising half the sequence, 8, 371

Dimerization constants water-soluble porphyrins in aqueous alkali, 8, 69	chemistry, review, 8 , 497
2-N,2-N-Dimethyl-guanosine	distribution: intestine, brain, and tumors, 8, 497 forms and fragments, structure—function
conversion of guanosine, methylation of hetero-	relations, 8, 497
cyclic amino groups, 8, 339	-like peptides, review, 8, 497
3,4-Dinitrophenyl glycosides	β-D-Glycosidase
substrates for cellulolytic enzymes, 8, 147 DNA	from Trichoderma viride, 8, 147
carminic acid reactions with, 8, 17	Guanosine 3',5'-phosphoric acid alkyl esters synthesis and reactivity, 8, 9
E	н
Elastase	2-Haloethylnitrosoureas
pancreatic, inhibitors (swine), 8, 299	biochemical aspects, 8, 97
Electron-spin resonance formation of cyclodextrin inclusion compounds	Heart
of stable nitroxide radicals, 8, 211	phosphodiesterase, inhibition (cattle), 8, 9 Helminthosporium maydis
Electrostatic charges	host-specific pathotoxin affecting corn with
influence on pK, 8, 59	Texas male sterile cytoplasm, characteriz-
Enkephalin	ation, 8, 391
analogs modified in aromatic ring of N-terminal	Heme
tyrosine residue, 8, 255	protein, nmr studies, 8, 485
-methionine, preparation of biologically active sample, 8 , 323	Histidines acid-base properties, 8, 59
Enzymes	Histone
cellulolytic, use of 3,4-dinitrophenyl glycosides as	deacetylation, mechanism, 8, 409
substrates, 8, 147	Histone deacetylase
Ester	thymus, release of acetyl groups from synthetic
aminolysis, kinetics, 8 , 45 hydrolysis, kinetics, 8 , 45	diacetylated histone H4-(1-37) (cattle), 8,
Ethyl[2-14C]-6-pentylresorcylate	409 Hormone
structures and biosynthesis of tetronic acid	activity, vasoactive intestinal peptide (chicken),
metabolites (Penicillium multicolor), 8, 311	8, 399
Exchange	Hydrolysis
reactions of porphyrins, 8, 485	cellulolytic enzymes, use of 3,4-dinitrophenyl
	glycosides as substrates (Trichoderma
F	viride), 8 , 147 water-catalyzed of <i>p</i> -nitrotrifluoroacetanilide,
Facteur thymique serique	proton inventory, 8, 141
synthesis, 8 , 35	Hydrophobic/hydrophilic
Fluorenylmethoxycarbonylamino acids	interaction in phorphyrin systems, 8, 69
polyamide method of solid phase peptide and	Hydroxamic acids
oligonucleotide synthesis, 8, 351	aromatic, production, 8, 227 Hydroxyl radical
Fungus	generation from carminic acid and spin trapping,
toxins affecting corn, 8, 391	8 , 17
	Hydroxymethylbilane
G	formation from porphobilinogen, 8, 451
	uroporphyrinogen-III formation from, 8 , 451
Gastrin big	4-(Hydroxymethyl)phenylacetamidomethyl-resin in synthesis of [Gln ⁴]neurotensin, 8, 41
revised sequence (swine), 8 , 465	Hydroxyproline
sequence, synthesis, and immunochemical	residues, enzymatic conversion of proline
studies (swine), 8, 471	residues within collagen peptides, 8, 219

3-Hydroxypyridine M ionization and ¹³C nmr shifts, 8, 191 6-Mercaptopurine synthesis and properties of poly(9-vinylpurine-6thiol), 8, 295 1 Methionine Imidazole anion -enkephalin, preparation of biologically active reactive species, 8, 25 sample, 8, 323 Immunochemical methods Methylation structural studies, big gastrin (swine), 8, 465, 471 conversion of guanosine into its 2-N-methyl- and Immuno peptides 2-N,2-N-dimethyl derivatives, 8, 339 facteur thymique serique and analog, 8, 35 2-N-Methyl-guanosine conversion of guanosine, methylation of hetero-D-Cys analogs, synthesis and biological activity cyclic amino groups, 8, 339 (human), 8, 443 2-(Methylsulfonyl)-ethoxycarbonyl Intestine protection, in somatostatin synthesis, 8, 429 gastrin distribution, review, 8, 497 Multicolanic acid Intramolecular catalysis structure and biosynthesis, 8, 311 solvent isotope effects in, 8, 45 Multicolic acid Ionization structure and biosynthesis, 8, 311 p-nitrocatechol sulfate, effects on its behavior as Multicolosic acid substrate for arylsulfatases, 8, 205 structure and biosynthesis, 8, 311 Ionization constants Muscle determination by 13C nmr of vitamin B6 comsmooth: contracting activity, structure-activity pounds, 8, 191 studies of amino acids and peptides in Iron bradykinin series, 8, 333 (sulfur complexing studies, synthesis of apoferredoxin (Clostridium butyricum), 8, 371 Isoleucine N stereochemistry of biosynthesis, 8, 175 NAD+ glycohydrolase Isomeroreductase spleen, mechanism of action (cattle), 8, 83 stereospecificity of valine and isoleucine bio-[Gln⁴]-Neurotensin synthesis, 8, 175 synthesis, 8, 41 6-Nitrobenzisoxazole-3-carboxylate effects, solvent: in intramolecular catalysis, 8, 45 effect of added anions on catalyzed decarboxylexchange in porphyrins, 8, 485 ation by polyethylenimine derivatives, 8, 283 p-Nitrocatechol sulfate substrate for arylsulfatases, effect of ionization, K 8, 205 4-Nitro-L-histidine a-Ketoglutaric acid acid-base properties, 8, 59 coupling to endothermic production of oxo-iron Nitrophenyl acetate species, mechanism for prolyl hydroxylase action, 8, 219 hydrolysis, inhibited by cycloamyloses, 8, 237 4-Nitrophenyl 5-nitrosalicylate acyl transfer reactions, in tris buffer, 8, 45 Nitrosamides biochemical aspects, 8, 97 Leu⁵-enkephalin, see Enkephalin Nitrosamines Ligands biochemical aspects, 8, 97 correlation analysis of interactions with cyclo-Nitrosation amyloses, 8, 237 reactions, catalysis and inhibition, 8, 97 Liver Nitrosobenzene homogenates, nonmicrosomal production of N-4-chloro, metabolism in liver (rat), 8, 227

Nitroso compounds

production, 8, 91

(4-chlorophenyl)glycohydroxamic

from 4-chloronitrosobenzene (rat), 8, 227

C-Nitroso compounds	apoferredoxin fragments (Clostridium
biochemical aspects, 8, 97	butyricum), 8, 371
N-Nitroso compounds	fragment condensation by, 8, 471
biochemical aspects, review, 8, 97	solid phase method, 8, 409
p-Nitrotrifluoroacetanilide	triphenylphosphine-sulfur trioxide adduct as
proton inventory of water-catalyzed hydrolysis,	coupling reagent, 8, 323
8, 141	and vasoactive intestinal peptide, 8, 399
Nitroxide	13-Peptide amide
stable radicals, formation of cyclodextrin	in vasoactive intestinal peptide (chicken), 8, 399
inclusion compounds as monitored by	pH
electron-spin resonance spectra, 8, 211	effect on amino acid reactivity in azo coupling
Nuclear magnetic resonance	reaction, 8, 25
¹³ C spectra of vitamin B ₆ compounds, aqueous	Phenolate anion
solution equilibria and determination of	reactive species, 8, 25
acid dissociation constants, 8, 191	2-[4-(Phenylazo)-phenylsulfonyl]-ethoxy
heme protein, 8 , 485	group, protection: in somatostatin synthesis, 8,
³¹ P, chemical shifts: guanosine 3',5'-phosphoric	429
acid alkyl esters, 8, 9	Phosphodiesterase
Nucleotide triesters	heart, inhibition (cattle), 8, 9
hydrolysis, 8 , 9	Piperidine
	acceleration of cleavage of β -cyclodextrin trans-
	cinnamate, 8 , 249
O	Polyamide
Obituary	solid phase peptide and oligonucleotide synthesis, 8, 351
Kenner, G. W., 8, 291	•
Oligonucleotides	Polyriboinosinic acid
polyamide method of solid phase synthesis, 8,	synthesis and properties of poly(9-vinylpurine-6- thiol), 8, 295
351	· · ·
Oxidation	Polyribonucleotides
arylamines, by chloroperoxidase, 8, 91	formation of double-stranded complexes, syn- thesis and properties of poly(9-vinylpurine-
hydrocarbons, mechanism for prolyl hydroxy-	6-thiol), 8 , 295
lase action, 8, 219	Poly(9-vinylpurine-6-thiol)
, ,	synthesis and properties, 8, 295
	Porphobilinogen
	hydroxymethylbilane formation from, 8, 451
p	Porphyrin
PAM-resin, see 4-(Hydroxymethyl)phenyl-	deuteration, 8, 485
acetamidomethyl-resin	exchange reactions, 8, 485
Pancreas	syntheses, 8 , 485
elastase inhibition (swine), 8, 299	type III, biosynthesis, 8, 451
Penicillum multicolor	water-soluble, dimerization constants, 8, 69
structures and biosynthesis of multicolanic,	Prohormones
multicolic and multicolosic acids, 8, 311	possibly vasoactive intestinal peptide, 8, 399
Peptides	Proinsulin
binding to pancreatic elastase (swine), 8, 299	peptide pattern, 8, 399
gastrin-like, review, 8, 497	Proline
polyamide method of solid phase synthesis, 8,	residues, enzymatic conversion to hydroxy-
351	proline residues within collagen peptides, 8,
sequencing, ummunochemical studies in, 8, 471	219
solid-phase synthesis, 8, 35	Prolyl hydroxylase
structure-activity studies in bradykinin series,	mechanism for action, æketoglutarate dependent
synthesis of analogs modified in position, 8,	dioxygenases, 8, 219
333	Protein
synthesis	heme, nmr studies, 8, 485

Proton p-Thiocresol-formaldehyde inventory, water-catalyzed hydrolysis of p-nitroreaction with heterocyclic amino groups, contrifluoroacetanilide, 8, 141 version of guanosine into its 2-N-methyland 2-N,2-N-dimethyl derivatives, 8, 339 Protoporphyrin-IX deuteration, 8, 485 Thymic peptides syntheses, 8, 485 chemistry, role in immune mechanisms, 8, 35 Pyroglutamyl peptides Thymopoietin synthesis, 8, 399 in facteur thymique serique synthesis, 8, 35 Toxin 0 affecting corn (fungus), 8, 391 Trichoderma viride Quinuclidine 3,4-dinitrophenyl glycosides used as substrates in acceleration of cleavage of B-cyclodextrin transstudies on cellulolytic enzymes, 8, 147 cinnamate, 8, 249 Tridecapeptide amide, see 13-Peptide amide Triphenylphosphine S -sulfur trioxide adduct, coupling reagent in peptide synthesis, 8, 323 Solvent Tris isotope effects, in intramolecular catalysis, 8, 45 aqueous buffer, 4-nitrophenyl 5-nitrosalicylate Somatostatin acyl transfer reactions in, 8, 45 synthesis, alternating solution/solid-phase pro-Tris(hydroxymethyl)aminomethane, see Tris cedure, 8, 429 Tumor gastrin distribution, review, 8, 497 chalcone isomerase from, mechanism of action, Tyrosine 8, 1 N-terminal residue, enkephalin analogs modified Spleen in aromatic ring, 8, 255 NAD+ glycohydrolase (cattle), 8, 83 Stereochemistry valine and isoleucine biosynthesis, 8, 175 Uroporphyrinogen-III Steroids biosynthesis, 8, 451 biomimetic synthesis, 8, 513 order of assembly of rings, 8, 451 Sulfur -iron complexing studies, synthesis of apoferredoxin (Clostridium butyricum), 8, 371 Sulfur trioxide -triphenylphosphine adduct, coupling reagent in Valine peptide synthesis, 8, 323 stereochemistry of biosynthesis, 8, 175 Synthesis Vasoactive intestinal peptide biomimetic, steroids, 8, 513 possibly a prohormone, 8, 399 D-Cys analogs of insulin (human), 8, 443 VIP, see Vasoactive intestinal peptide deuterated protoporphyrin-IX derivatives, 8, 485 Vitamin B₆ diacetylated histone H4-(1-37), 8, 409 aqueous solution equilibria, 13C nmr spectra, 8, facteur thymique serique and analog, 8, 35 191 guanosine 3',5'-phosphoric acid alkyl esters, 8, 9 [Gln⁴]-neurotensin, 8, 41 peptide, in big gastrin (swine), 8, 471 Water somatostatin, 8, 429 hydrolysis of p-nitrotrifluoro--catalyzed

T

apoferredoxin

structures and biosynthesis of metabolites

(Penicillium multicolor), 8, 311

(Clostridium

Tetradecapeptides synthesis of

Tetronic acid

butyricum), 8, 371

4-Ylidenetetronic acids

structures and biosynthesis of tetronic acid metabolites (Penicillium multicolor), 8, 311

acetanilide, proton inventory, **8**, 141
-soluble porphyrins, dimerization constants, **8**, 69

Y