SUBJECT INDEX

Acetate, excretion of a-ketoglutaric acid by	Bone, organisation of collagen fibrils 161
vibrio during oxidation of 418	Brain, behaviour of some phosphate esters
Acetate-activating enzyme, Rhodospirillum	at start of convulsions induced by
rubrum	fluoroacetate and fluorocitrate, obser-
2-Acetylaminofluorene, and related carci-	vations
nogens, enzymic deacetylation 382	, chicken, thiamine-deficient, thiamine
Acetylcholine, and related compounds,	pyrophosphatase, acid and alkaline
electric tissue, modifications of electri-	phosphatase activity
cal activity by 449	, cortex, phosphate turnover in phos-
, phosphate turnover in phospholipids	pholipids in vitro, effects of acetyl-
of brain cortex in vitro, effects of 229	choline
Acetylcholinesterase, from human erythro-	Carboxypeptidase, action on ribonuclease . 30-
cytes, acetylation reactions in presence	Carcinogen, 2-acetylaminofluorene and re-
of —	lated compounds, enzymic deacety-
N-Acetyl-3:5-dibromo-L-tyrosine, chymo-	lation
trypsin catalyzed oxygen exchange.	Carcinoma, Walker - , rat, metabolism of
kinetics	two different DNA fractions, study
Actomyosin-like protein, sea-anemone, apy-	with ³² P
rase activity 589	Carotenoid pigments, non-photosynthetic
Adenosine pentaphosphate, presence in	bacteria, association with protein
commercial ATP 436	components 48:
Adenosine triphosphatase, activities of myo-	Casein, mouse milk (R III), some properties 293
fibrils and L-myosin, stimulation by	Catalase, yeast, induced formation, effect of
2:4-dinitrophenol	catalase inhibitor 410
Adenosine triphosphate, action on flagella	Catechol, oxidation, manganese and copper
models	catalyzed, properties 51
, commercial, presence of adenosine	Chlorophyll, light-sensitized, initiation of
pentaphosphate 436	autoxidation of fatty acid esters with
, Escherichia coli, anaerobic metabolism	and without, U.V. light and
after U.V. irradiation.	lipoxidase, infrared studies 150
, frog spermatozoa, effect of U.V. ir-	Cholinesterase, ox red cells, purification 300
radiation	Cholinesterases, intracellular localization,
, spleen tissue, disturbance of break-	dog's pancreas and pancreatic juice . 558
down after irradiation 437	— , mammalian livers, intracellular loca-
Alloxan diabetes, hexose monophosphate	lization
oxidative pathway in	, tissue, characterization 513
, rats, biosynthesis of mucopolysaecha-	Chromatography, paper, separation of
rides in skin 304	2-phosphoglyceric acid and 3-phospho-
Allwörden reaction, bromine, micro-	glyceric acid 614
scopical study 307	—, prostatic phosphatase
Amino acids, activation in animal tissues,	—, purification of thrombin 157
enzymic mechanism	Chromosomes, metabolic — -, constituent
, phenyl thiohydantoins in analysis . 283	chromofilaments, electron microscopy 322
-, TMV protein, C-terminal sequence. 597	Chymotrypsin, catalysis of oxygen exchange
Anthranilic acid, conversion to indole, ex-	of N-acetyl-3:5-dibromo-L-tyrosine,
tracts of Escherichia coli, participation	kinetics 601
of ribose derivatives 594	, nature of reaction with diisopropyl-
Azotobacter vinelandii, dissimilation of 6-	fluorophosphate 296
phosphogluconate	, spectrophotometric determination 570
Apyrase, sea-anemone, activity of acto-	Chymotrypsinogen, ox, formation of servl-
myosin-like protein 589	arginine during activation 590
Bacillus megaterium, lysogenic, synthetic	Cilia, structure, electron microscopy 66
media for maintenance and induction 596	Collagen, fibrils in bone, organisation 161
Bacteria, non-photosynthetic, carotenoid	Cortisone, increased glucose-6-phosphatase
pigments associated with protein com-	activity after administration, liver 618
ponents	Cystine, content and U.V. sensitivity of
Bacteriophage T ₂ , membrane preparations.	proteins, relation
study of action on Escherichia coli 330	Cytidine triphosphate, enzymic synthesis . 616

Cytochrome oxidase, fragmented bull sper-		action of ATP	146
matozoa, distribution 49	94 []]	Flavin-adenine-dinucleotide, new method of	
Cytochromes, bacterial, comparative studies 47	71	preparation	424
6-Desoxy-6-fluoro-p-glucose, effect on yeast]	Fluoroacetate and fluorocitrate, behaviour	
fermentation and hexokinase activity 57	76	of some phosphate esters in brain at	
Desoxyribonucleic acid, see Nucleic acid		start of convulsions induced by ———.	
Desoxyribonucleohistone, see Nucleohistone		observations	² 54
Desoxyribonucleoprotein, see Nucleoprotein		Formic acid, influence on protein hydrolysis,	
Diaminopimelic acid decarboxylase, pyrid-		new and rapid method	553
oxin-deficient Escherichia coli 4.	42 /	3-Galactosidase, Escherichia coli, induced	
o-Dihydroxybenzene derivatives, oxidation,		synthesis, kinetics and mechanism of	
manganese and copper catalyzed,		sulfur incorporation	99
		Globulin, fluorescent — of the lens	107
Diisopropylfluorophosphate, nature of re-		p-Glucosamine-6-phosphate N-acetylase,	
action with chymotrypsin 29		occurrence in yeast	429
p-Dimethylaminoazobenzene, effect on nu-	(Glucose-6-phosphatase, liver, increased ac-	
cleic acids: K ratios, rat liver 4		tivity after cortisone administration.	618
2:4-Dinitrophenol, ATPase activities of	(Glucose-6-phosphate and gluconate-6-phos-	
myofibrils and L-myosin, stimulation 28	85	phate dehydrogenase, occurrence in	
, enzymic activity of myosin, effect 28	84	worms	
Diphosphopyridine nucleotide, and related		Gluten, wheat, action of reducing agents	
substances, difference spectra, de-		—, —, study of solubility	354
pendence upon pH 4	89 (Guanine, principal nitrogenous component	
Ehrlich ascites tumour, see Tumour		of excrements of certain spiders	
Electron microscopy, Escherichia coli K12,		Guanosine triphosphate, enzymic synthesis	616
observations of changes following in-	1	Glyceric acid, 3-phosphoryl-D- —, paper	
	82	chromatographic separation from 2-	2
, metabolic chromosomes, constituent		phosphoglyceric acid	
chromofilaments 3	22 -	—, —, preparation of sodium salt	613
, structure of cilia	66	Glycine, conversion of serine to — -, a new	
, study of potato virus X 3		cofactor	165
—, trichocysts, observations 4	.6.4	Haemoglobin, horse, application of Edman's	
Electrophoresis, group A haemolytic strepto-		degradation method	599
cocci, cell-free extracts of various		Hexokinase, activity in yeast, effect of 6-	
serological types, examination 3		desoxy-6-fluoro-D-glucose	576
—, modification of Polson's technique 6	ю3	Hexose monophosphate, oxidative pathway	
Electroplax, intact, evaluation of esterase		in alloxan diabetes	446
activity 3	96 .	Hill reaction, Synechococcus cedrorum, par-	
Erythrocytes, human, acetylation reactions		ticipation of phycocyanin	391
in presence of acetylcholinesterase	40	Indole, conversion of anthranilic acid to	
from — 5	83	—, extracts of Escherichia coli, par-	
Escherichia coli, extracts, conversion of		ticipation of ribose derivatives	594
anthranilic acid to indole, partici-		Infrared spectroscopy, initiation of autoxi-	
pation of ribose derivatives 5	94	dation of fatty acid esters with and	
—, induced synthesis of β -galactosidase,		without light-sensitized chlorophyll,	
kinetics and mechanism of sulfur in-		U.V. light and lipoxidase, studies	159
	99	Inosine diphosphate, formation of nucleoside	
, membrane preparations of bacterio-		triphosphate from —, yeast	610
phage T ₂ , study of action 3	30	Insulin, kinetics of deuterium exchange with	
, pyridoxin-deficient, diaminopimelic		D_2O , an amendment	108
acid decarboxylase 4	42	Isocitric dehydrogenase, TPN-linked, oxalo-	
—, U.V. irradiated, anaerobic metabolism		succinic carboxylase, identity	434
of ATP and DNA 4	177	a-Ketoglutaric acid, excretion during oxi-	_
Escherichia coli K12, changes following in-		dation of acetate by vibrio	418
duction, electron microscopical obser-		a-Ketoglutaric decarboxylase, disappear-	
** * *	82	ance from thiamine-deficient pigeon	a -
Estradiol, dog ovary, synthesis by surviving	-6	muscles	
		Lens, occurrence of fluorescent globulin	167
Fatty acid esters, initiation of autoxidation		Lipids, bacterial and other ——, interaction	
with and without light-sensitized		with polymyxin E	137
chlorophyll, U.V. light and lipoxidase,		Lipoxidase, initiation of autoxidation of	
infrared studies	-	fatty acid esters with and without	
Fibroin, silk —, investigation of structure	I	light-sensitized chlorophyll, U.V. light	T 50
BISTORIA DIVOPTILI-WALPF PYTTACTPO SE TILOPER		and minared stitues	[5,7

Liver, chicken, oxidation of reduced xan-	increasing copper resistance, conditions	539
thine dehydrogenase 258	, synthesis in Pseudomonas hydrophila,	
, glucose-6-phosphatase, increased ac-	influence of methionine	
tivity after cortisone administration . 618	, Torulopsis utilis, observations	117
	Nucleohistone, desoxyribo — , non-fibrous,	
of cholinesterases 301	viscosity behaviour in media of differ-	
, mouse, incorporation of precursors of	ent ionic strengths	17
nucleic acids and proteins, radioauto-	Nucleoprotein, desoxyribo - —, fraction-	
graphical study 45	ation	43
, rat, nucleic acids: K ratios, effect of	,, viscosimetric behaviour, influ-	
p-dimethylaminoazobenzene 444	ence of protein moiety	21
Lupinus angustifolius, seed proteins, physi-	, from Ehrlich ascites tumour cells, an	
co-chemical study 370	in vivo effect of ——	449
Methionine, synthesis of nucleic acid and	Nucleoside diphosphates, specific phospha-	
protein in Pseudomonas hydrophila,	tase for	53€
influence of 169	Nucleoside phosphotransferases, distribution	
Mitochondria, normal and neoplastic tissues,	and biological significance	522
biochemical properties 619	Nucleoside triphosphate, formation from	
Mucopolysaccharides, see Polysaccharides	IDP, yeast	610
Multiple myeloma, urinary proteins, investi-	Nucleotide, diphosphopyridine and	
gation by salting-out analysis 609	related substances, difference spectra,	
Muscle, body, nature of cross-striation 339	dependence upon pH	489
—, fiber, contraction of —— and myosin	—, flavin-adenine-di —, new method of	•
B in KI and KSCN solutions 301	preparation	424
, mammalian, exchange of potassium	, note on —— specificity of pyruvate	'
with surrounding medium 87	phosphokinase reaction	616
, pigeon, thiamine-deficient, disappear-	Oncorhynchus kisutch, tails of spermatozoa,	
ance of pyruvic decarboxylase and	X-ray diffraction study	438
α -ketoglutaric decarboxylase 219	Ovary, dog, surviving tissue slices and cell-	73
Myoglobin, horse, application of Edman's	free homogenates, synthesis of es-	
peptide degradation method 599	tradiol	96
Myosin, ATPase activity, stimulation by	Oxalosuccinic carboxylase, TPN-linked iso-	9'
2:4-dinitrophenol 285	citric dehydrogenase, identity	12
, enzymic activity, effect of 2:4-dinitro-	Oxidative phosphorylation,	4.0-
phenol and phenylmercuric acetate 284	see Phosphorylation	
Myosin B, threads, contraction of muscle	Oxytocin, relation between — and Van	
fiber and -— in KI and KSCN so-	Dyke protein	
	Pancreas, dog, intracellular localization of	153
Neoplastic tissue, biochemical properties of	cholinesterases	
mitochondria 619	Phenylmercuric acetate, enzymic activity of	330
Nuclease, ribo ——, action of carboxy-		. 2
peptidase	myosin, effect	282
-, -, degradation by subtilisin 297	phosphatase	T 60
		10.
further observations 611	Phosphatase, acid and alkaline , activity in thiamine-deficient chicken	
	brain	۰,
TMV, mechanism 433	—, human seminal —, phosphamidase	75
		16.
—, preparations from different	activity	
manufacturing sources, remarks 290	6-Phosphogluconate, dissimilation by Azoto-	243
Nucleic acid, desoxyribo , denaturation 446	bacter vinelandii	
——, ——, Escherichia coli, anaerobic me-	bacter vinelandii	230
tabolism after U.V. irradiation 477	101. 1 10 13 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
,, metabolism of two different fractions, Walker-carcinoma, study	turnover in with offects of costs	
with ³² l ³ 604	turnover in vitro, effects of acetyl-	2.37
, incorporation of precursor in mouse	choline	229
	tissue, disturbance after irradiation .	125
nver, radioautographical study 45 ——, rat liver, nucleic acids: K ratios, effect	-, photosynthetic — as anaerobic	437
of p-dimethylaminoazobenzene 444	processas anaerobic	600
, remark on spiral structure	—, photosynthesis, vitamin K as cofactor	
——, ribo ——, three different types, treat-	Photosynthesis, phosphorylation as anae-	00,
ments affecting U.V. absorption spec-	robic process	600
trum	, phosphorylation, vitamin K as co-	505
veast action of specific in		ho:

Phycocyanin, Synechococcus cedrorum, par-		activity	598
ticipation in Hill reaction	391	Ribose derivates, extracts of Escherichia coli,	
Pneumococcus, transforming agent, inacti-		conversion of anthranilic acid to	
vation by X-rays	183	indole, participation of ——	594
Polymyxin E, interaction with bacterial and		Salting-out analysis, urinary proteins in	
other lipids	137	multiple myeloma, investigation	600
Polyphosphate, Torulopsis utilis, obser-		Serine, conversion to glycine, a new cofactor	165
vations	117	Serrata marcescens, enzymes, intracellular	
Polysaccharides, muco, skin of alloxan		distribution	305
diabetic rats, biosynthesis	304	Serylarginine, formation during activation	
Potato virus X, see Virus		of ox chymotrypsinogen	590
Protease, thyroid ——, purification by		Skin, alloxan diabetic rats, biosynthesis of	
acetone fractionation	59^{2}	mucopolysaccharides	304
Protein, abnormal —— accompanying TMV,		Spermatozoa, bull, fragmented, distribution	
relationship	127	of succinic dehydrogenase and cyto-	
—, actomyosin-like —, sea-anemone,		chrome oxidase	494
apyrase activity	589	-, frog, ATP content, effect of U.V. ir-	
—, cystine content and U.V. sensitivity,		radiation	198
relation	444	—, tails, silver salmon, X-ray diffraction	
, desoxyribonucleo, fractionation.	431	study	438
—, —, viscosimetric behaviour, influ-		Spleen, irradiated tissue, disturbance of	
ence of protein moiety	211	oxidative phosphorylation and break-	
—, hydrolysis, influence of formic acid,		down of ATP	437
new and rapid method	553	Streptococci, haemolytic —, various sero-	
, incorporation of precursors in mouse		logical types of group A, cell-free ex-	
liver, radioautographical study	45	tracts, electrophoretic examination.	340
——, lupin seed, physico-chemical study	370	Subtilisin, degradation of ribonuclease.	297
—, non-photosynthetic bacteria, carote-		Succinic dehydrogenase, fragmented bull	
noid pigments associated with ——	0 -	spermatozoa, distribution	494
components	462	Synechococcus cedrorum, Hill-reaction, par-	
—, nucleo — from Ehrlich ascites tu-		ticipation of phycocyanin	391
mour cells, an in vivo effect of —— .	440	Tertiary nitrogen compounds, chemical and	
—, remark on spiral structure		electrical activities, difference with	
—, soya bean, ultracentrifuge studies		quaternary analogues	200
—, sunflower seed, studies	520	Tetanus toxin, purification by multi-mem-	
, synthesis in <i>Pseudomonas hydrophila</i> , influence of methionine	T60	brane electrodecantation Thiamine, deficient chicken brain, thiamine	291
, TMV, C-terminal amino-acid sequence		pyrophosphatase, acid and alkaline	
, urinary — in multiple myeloma,	397	phosphatase activity	~ ~
investigation by salting-out analysis.	600	-, deficient pigeon muscles, disappear-	75
, Van Dyke, oxytocin and vaso-	009	ance of pyruvic decarboxylase and	
pressin, relation	TEE	a-ketoglutaric decarboxylase	210
Pseudoapatites, fixation of calcium		Thiamine pyrophosphatase, see Thiamine	219
Pseudomonas hydrophila, extracts, con-	3//	Thiohydantoins, phenyl ——, amino acid	
version of D-xylose to D-xylulose	202	analysis	282
—, protein and nucleic acid synthesis,	-9-	Thrombin, purification by chromatography	157
influence of methionine	160	Thyroid protease, purification by acetone	-5/
Pyridoxin, deficient Escherichia coli, di-	/	fractionation	502
aminopimelic acid decarboxylase	442	Tobacco mosaic virus, see Virus	J9-
Pyruvate phosphokinase, note on nucleotide	7.	Torulopsis utilis, observations on nucleic	
specificity.	616	acid and polyphosphate	117
Pyruvic decarboxylase, disappearance from		Trichocyst, electron microscopical obser-	,
thiamine-deficient pigeon muscles	219	vations	464
Quaternary nitrogen compounds, chemical		Trypsin, inhibition by soya bean inhibitor.	
and electrical activities, difference		effect of urea	261
with tertiary analogues	268	, spectrophotometric determination	570
Radioautography, incorporation of pre-		Tumour, Ehrlich ascites, an in vivo	.,,
cursors of nucleic acids and proteins in		effect of nucleoprotein from —	440
mouse liver, study	45	Tyrosine, N-acetyl-3:5-dibromo-L-, chy-	•
Rhodospirillum rubrum, acetate-activating		motrypsin catalyzed oxygen exchange,	
enzyme	58	kinetics	601
Ribonuclease, see Nuclease		Ultracentrifugation, soya bean protein	203
Ribonucleic acid, see Nucleic acid		Urea, inhibition of trypsin by soya bean	
Ribose, biosynthetic, distribution of radio-		inhibitor, effect of ——	264

Vasopressin, relation between — and	forming agent	183
Van Dyke protein	- , silk fibroin, diffraction analysis of	.,
Virus, potato — X, electron microscopy . 343	structure	ı
, tobacco mosaic, C-terminal	, tails of spermatozoa, silver salmon,	
amino-acid sequence of protein 597	diffraction study	138
—, —, inhibition of multiplication by	D-Xylose, conversion to D-xylulose, extracts	1.5
ribonuclease, mechanism	of Pseudomonas hydrophila	202
, relationship between and	Yeast, action of specific RNA in increasing	
accompanying abnormal protein 127	copper resistance, conditions	530
Virus antihemagglutinin, activities of avian	, fermentation and hexokinase activity,	332
egg components	effect of 6-desoxy-6-fluoro-D-glucose	576
Vitamin K, cofactor of photosynthetic phos-	formation of nucleoside triphosphate	J / ''
phorylation	from IDP	h Lo
Volumeters, some sensitive and recording	freezing on cells, morphological and	.,,,,,,
	biochemical effects	E0.3
Walker-carcinoma, see Carcinoma	, p-glucosamine-6-phosphate N-acety-	30-
Xanthine dehydrogenase, reduced, oxidation		4.264
in chicken liver	lase	4-9
X-rays, pneumococcus, inactivation of trans-	of catalase inhibitor	. 10
A-rays, preumococcus, mactivation of trans-	of catalase finibitor	410
BOOK R	EVIEWS	
M. Dunyuccov, Museylay Contraction Spring	W. Linn Histochemical Mathoda Munich	
M. Dubuisson, Muscular Contraction, Spring-	W. Lipp, Histochemical Methods, Munich	e
field, Ill. 1954 623	Medical Department of the Dritish Council	440
S. EDLBACHER UND F. LEUTHARDT, Lehrbuch	Medical Department of the British Council,	<i>(.</i> .
der Physiologischen Chemie, 11. Autl.,	Chromatography, London 1954	024
Berlin 1954	Symposium on effects of radiation and other	
H. J. FLECHTNER, Gesundheit durch Krank-	deleterious agents on embryonic develop-	
heit. Das Rätsel der Immunität, Düssel-	ments, Oak Ridge, Tenn. 1953.	025
dorf 1954	A. VANNOTTI, Porphyrins, their Biological	
	and Chemical Importance, London 1954	622