

- VAN LEEUWEN, G., see HOMMES, F. A. . . . 320
 VARRONE, S., see ROCHE, J. 188
 VOGEL, H. J., see GILL, J. W. 200
 WHITTAKER, P. A., see REDFEARN, E. R. . . . 440
 WIELAND, O., see GRIES, F. A. 615
 WINDMUELLER, H. G. AND N. O. KAPLAN
 (Solubilization and purification of di-
 phosphopyridine nucleotidase from pig
 brain) 388
 YAGI, K. AND T. OZAWA
 (Complex formation of apo-enzyme,
 coenzyme and substrate of D-amino
 acid oxidase. II. Spectrophotometric
 analysis using a substrate-substitute). 413
 YAGI, T. AND T. OZAWA
 (Complex formation of apo-enzyme,
 coenzyme and substrate of D-amino
 acid oxidase. III. Crystallization of
 artificial Michaelis complexes) 420
 YANKWICH, P. E., see LYNN, K. R. 512
 YASUDA, M., see NAGAI, T. 205
 ZILLIKEN, F., see LASH, J. W. 313
 ZILLIKEN, F., see HOMMES, F. 320

SUBJECT INDEX

- Acetabularia, nucleate and anucleate —;
 behaviour of free amino acids in,
 (BREMER, SCHWEIGER, SCHWEIGER). . . 380
 Acetamide, *N*-(2-fluorenyl)-, 2-imino-1,2-
 fluorenoquinone as anabolite *in vitro*
 of —; protein labeling by, (GUT-
 MANN, KING) 394
 [¹⁴C]Acetate, incorporation of — in
 resting cells of *Rhodospirillum rubrum*;
 early products of, (BENEDICT) 620
 Acetylcholine, conformation of, (FELLMAN,
 FUJITA). 227
 Adenine, uptake of, by brewers' yeast
 (HARRIS, THOMPSON) 293
 Adenosine triphosphate, hydrolysis of —
 by myosin; effect of temperature on
 rate of, (LEVY, SHARON, RYAN, KOSH-
 LAND JR.) 118
 Adipose tissue, brown — of rat; stimu-
 lation of phosphogluconate oxidation
 pathway by pyruvate under anaerobic
 conditions in, (BELOFF-CHAIN *et al.*) . . 153
 Adrenal gland, rat — preparations;
 effect of Ca²⁺ and freezing on *in vitro*
 synthesis of pregnenolone by, (KORITZ) . 63
 Aldehyde oxidase, purification and proper-
 ties of, (PALMER). 444
 D-Altrose, 6-deoxy-; isolation of, from
 chemically reduced hygromycin (EL-
 BEIN, KOFFLER, GARNER) 165
 D-Amino acid oxidase, apo-enzyme and
 coenzyme and substrate of —; com-
 plex formation of, (YAGI, OZAWA) 413, 420
 Amino acids, incorporation of —; effect
 of fatty acids on, (ACS, NEIDLE,
 SCHNEIDERMAN) 373
 Amino acids, aliphatic —; effect of, on
 activation of trypsinogen and on sta-
 bility of trypsin solutions (GERATZ). . 599
 Amino acids, free —; behaviour of, in
 nucleate and anucleate acetabularia
 (BREMER, SCHWEIGER, SCHWEIGER). . 380
 δ -Aminolevulinic acid dehydratase, — ac-
 tivity in liver; relation of, to substrate
 concentration (ONISAWA, LABBE). . . 618
 Ammonium bases, quaternary —; inter-
 action of, with macromolecules from
 electric organ of electric eel (HASSÓN) 275
 Amphioxus, — treated with ¹³¹I; identi-
 fication of labeled thyroxine and tri-
 iodothyronine in, (TONG, KERKOF,
 CHAIKOFF) 326
 Angiotensin, phenoxyl groups of — pep-
 tides; titration of, with sensitive spec-
 trophotometric method (PAIVA, PAIVA) 339
 Apo-enzyme, — of D-amino acid oxidase;
 complex formation of, and coenzyme
 and substrate (YAGI, OZAWA). . . 413, 420
 Ascorbic acid, oxidation of — by oxygen;
 influence of sulfur compound on cataly-
 sis of, by *o*-iodophenolate (PIHAR) . . 159
 Ascorbic acid, oxydation of tyrosine and
 tyrosine-containing peptides and pro-
 teins by mushroom polyphenoloxidase
 in presence of, (ROLLAND, LISSITZKY). . 83
 Ascorbic acid oxidase, reaction inacti-
 vation of, (TOKUYAMA, DAWSON). . . 427
Aspergillus niger, molybdenum toxicity in
 —; influence of sulfur compounds on,
 (RAMAN, SIVARAMA SASTRY, SARMA) . 195
Azotobacter vinelandii, respiration in —;
 oxygen inhibition of, (DILWORTH) . . 127
 Bacteria, purple and green photosynthetic
 sulphur —; enzymes of reductive
 pentose phosphate cycle in, (SMILLIE,
 RIGOPOULOS, KELLY). 612
 Betaine, methyl-transfer from —; en-
 thalpy changes in, (DURELL, RAWIT-
 SCHER, STURTEVANT) 552
 Bile acid methyl esters, gas chromatog-
 raphy of, (HOLMES, STACK) 163
 Brain, DPN nucleotidase from — of pig;
 solubilization and purification of,
 (WINDMUELLER, KAPLAN). 388
 Brain, metabolism of phosphoproteins in
 — tissue; precursors in, (HEALD,
 STANCER) 111
¹⁴C kinetic isotope effects, — in urease-
 catalyzed hydrolysis of urea; tempera-
 ture dependence of, (LYNN, YANKWICH) 512
 Calcium ion, effect of, on *in vitro* synthesis
 of pregnenolone by rat adrenal prepa-

- rations (KORITZ) 63
- Carbon tetrachloride, changes in fatty acid composition of liver lipids induced by, (HORNING, EARLE, MALING) 175
- Carboxymethylcellulose, chromatography on —; purification of trypsinogen and trypsin of ox by, (MAROUX, ROVERY, DESNUELLE) 202
- Cartilage, vertebral —; induction of, with low-molecular-weight tissue component *in vitro* (LASH, HOMMES, ZILLIKEN) 313
- Casein, action of rennin on —; function of neuraminic acid residues in, (GIBBONS, CHEESEMAN) 354
- Cell, — differentiation; induction of, (LASH, HOMMES, ZILLIKEN) 313 (HOMMES, VAN LEEUWEN, ZILLIKEN) 320
- Cells, resting — of *Rhodospirillum rubrum*; early products of acetate incorporation in, (BENEDICT) 620
- Ceruloplasmin, — isolated from human serum; separation of, in two cupro proteins (RICHTERICH, TEMPERLI, AEBI) 240
- Chicken, spinal cords and notochords of — embryos; isolation of chondrogenic factor from, (HOMMES, VAN LEEUWEN, ZILLIKEN) 320
- Chlorophyll *a*, separation of, from chlorophyll *b* and breakdown products by paper chromatography (HOLDEN) 377
- Chlorophyll *b*, separation of, from chlorophyll *a* and breakdown products by paper chromatography (HOLDEN) 377
- Cholinesterase, serum — treated with neuraminidase; properties of, (AUGUSTINSSON, EKEDAHL) 392
- Chondrogenic factor, isolation of, from embryonic chick spinal cords and notochords (HOMMES, VAN LEEUWEN, ZILLIKEN) 320
- Chymotrypsinogen, partial structure of, (KEIL *et al.*) 595
- Clupeine, component of —; chemical structure of, (ANDO, IWAI, ISHII, AZEGAMI, NAKAHARA) 628
- Cobalt, deficiency of —; effect of, on utilization of nitrate nitrogen in *Rhizobium* (NICHOLAS, MARYAMA, FISHER) 623
- Coenzyme, — of D-amino acid oxidase; complex formation of, and apo-enzyme and substrate (YAGI, OZAWA) 413, 420
- Coenzyme A, β -hydroxy- β -methylglutaryl — cycle in *Rhodopseudomonas spheroides*; enzymes of, (CARR) 604
- Coenzyme Q, — in germ-free rat (BIERI, MCDANIEL) 602
- Contractile responses, effects of electron donors and acceptors on, (KAMINER) 14
- Cord, spinal — of chick embryos; isolation of chondrogenic factor from, (HOMMES, VAN LEEUWEN, ZILLIKEN) 320
- Cow, xanthine oxidase from milk of —; kinetics of catalysis of xanthine oxidation of, (ACKERMAN, BRILL) 397
- Cupro proteins, — from human serum; isolation and characterization of, (RICHTERICH, TEMPERLI, AEBI) 240
- Cyanocobalamin, absorption of — in rat; effect of fluoroacetate on, (LATNER, HODSON) 185
- Dehydratase, δ -aminolevulinate — activity in liver; relation of, to substrate concentration (ONISAWA, LABBE) 618
- Dehydroepiandrosterone, 7-hydroxylation of, by rat-liver homogenate (STÁRKA, KÚTOVÁ) 76
- Dehydrogenase, crystalline supernatant malic — from beef heart; preparation and properties of, (ENGLAND, BREIGER) 571
- I-Dehydrogenase, steroid — of *Nocardia restrictus* (SIH, BENNETT) 584
- Dehydrogenases, intra- and extramitochondrial isocitrate — (LOWENSTEIN, SMITH) 385
- Diaphragm muscle, phosphogluconate oxidation pathway in —; stimulation of, by pyruvate under anaerobic conditions (BELOFF-CHAIN *et al.*) 153
- Diphosphopyridine nucleotidase, — from pig brain; solubilization and purification of, (WINDMUELLER, KAPLAN) 388
- Diphosphopyridine nucleotide, oxidized — from mitochondria; mechanism of reduction of, coupled with oxidation of succinate (SLATER, TAGER, SNOWELL) 177
- Diphosphopyridine nucleotide, — ethanol reaction; mechanism of, (KOSOWER) 474
- Diphosphothiamine disulfide, occurrence of, in baker's yeast (OLIVO, ROSSI, SILIPRANDI) 158
- Disaccharides, utilization of — by yeast; mechanism of, (DE LA FUENTE, SOLS) 49
- Electric eel, electric organ of —; interaction of quaternary ammonium bases with macromolecules from, (HASSÓN) 275
- Electric organ, — of electric eel; interaction of quaternary ammonium bases with macromolecules from, (HASSÓN) 275
- Electron acceptor, effect of, on contractile responses (KAMINER) 14
- Electron donors, effect of, on contractile responses (KAMINER) 14
- Embryo, — of chicken; isolation of chondrogenic factor from spinal cords and notochords of, (HOMMES, VAN LEEUWEN, ZILLIKEN) 320
- Endosymbiote, bacterial-type —; evidence for, in *Herpetomonas (Strigomonas) oncopelti* (GILL, VOGEL) 200
- Enzyme, — catalyzing phosphoramidate phosphoryl transfer; properties of, (FUJIMOTO, SMITH) 501
- Enzyme, — preparation from *P. aeruginosa*; synthesis of a rhamnolipid by, (BURGER, GLASER, BURTON) 172
- Enzymes, — of β -hydroxy- β -methyl-

- glutaryl-coenzyme A cycle in *Rhodopseudomonas spheroides* (CARR) 604
- Enzymes, — of reductive pentose phosphate cycle in purple and green photosynthetic sulphur bacteria (SMILLIE, RIGOPOULOS, KELLY) 612
- Enzymic stimulation, non-specific — *in vivo*; effect of pyrimido-pyrimidine derivative on, (LITWACK) 593
- Ergothioneine, interrelationship between — and phenolic hormones and peroxidase (KLEBANOFF) 460
- Escherichia coli*, alkaline phosphatase of —; incorporation of inorganic phosphate into, (ENGSTRÖM) 606
- Escherichia coli*, phosphoramidate phosphoryl transfer enzyme extracted from, (FUJIMOTO, SMITH) 501
- Escherichia coli*, pyridine nucleotide reduction by, associated with glucose metabolism (ESTABROOK, MAITRA, SCOTT) 181
- Escherichia coli*, ultraviolet-irradiated —; failure of, to produce a cross-reacting protein (MASTERS, PARDEE) 609
- Esterase, pseudocholine — from horse serum; purification and properties of, (JANSZ, COHEN) 531
- Esterase, serum choline — treated with neuraminidase; properties of, (AUGUSTINSSON, EKEDAH) 392
- Ethanol, — diphosphopyridine nucleotide reaction; mechanism of, (KOSOWER) 474
- Ethionine, changes in fatty acid composition of liver lipids induced by, (HORNING, EARL, MALING) 175
- Euglena gracilis*, greening and biosynthesis in —; effect of streptomycin on, (KIRK) 139
- Fatty acid, — composition of lecithin and its phospholipid precursors from mutant strain of *N. crassa* (HALL, NYC) 370
- Fatty acid, — composition of liver lipids; changes in, induced by CCl_4 and ethionine (HORNING, EARL, MALING) 175
- Fatty acids, effect of, on amino acid incorporation (ACS, NEIDLE, SCHNEIDERMAN) 373
- 1,2-Fluorenoquinone, 2-imino-; protein labelling by, (GUTMANN, KING) 394
- Fluoroacetate, effect of, on cyanocobalamin absorption in rat (LATNER, HODSON) 185
- Frog, outer membrane of — skin; effect of thiol-group-blocking agents on, (JANÁČEK) 42
- Glucobacter liquefaciens*, energy production in, (STOUTHAMER) 19
- Glucose, — metabolism; pyridine nucleotide reduction by *E. coli* associated with, (ESTABROOK, MAITRA, SCOTT) 181
- Glucosyltransferase, uridinediphosphate-glucose-glycogen —; specificity of, (GOLDBERG) 357
- Glycerol, determination of, in phosphatides (RENKONEN) 367
- Glycosides, — related to disaccharides; mechanism of utilization of, by yeast (DE LA FUENTE, SOLS) 49
- Haemolysis, inhibition of, by phlorizin (GOOD) 359
- Hamster, — small intestine; phlorizin as competitive inhibitor of active transport by, (ALVARADO, CRANE) 170
- Heart, crystalline supernatant malic dehydrogenase from ox —; preparation and properties of, (ENGLARD, BREIGER) 571
- Herpetomonas (Strigomonas) oncopelti*, evidence for bacterial-type endosymbiote in, (GILL, VOGEL) 200
- Hexuronic acids, separation of, by ion-exchange process (DZIEWIATKOWSKI) 167
- Hormone, bovine parathyroid —; purification of, by gel filtration (RASMUSSEN, CRAIG) 332
- Hormones, phenolic —; interrelationship between, and ergothioneine and peroxidase (KLEBANOFF) 460
- Hormones, thyroidal —; correlation between effects of, on hepatic mitochondria and their fixation and metabolism (ROCHE, RALL, MICHEL, MICHEL, VARONNE) 188
- Hormones, thyroidal —; induction of β -hydroxy- β -methylglutaryl reductase by, (GRIES, MATSCHINSKY, WIELAND) 615
- Horse, pseudocholinesterase from — serum; purification and properties of, (JANSZ, COHEN) 531
- β -Hydroxy- β -methylglutaryl-coenzyme A cycle, — in *Rhodopseudomonas spheroides*; enzymes of, (CARR) 604
- β -Hydroxy- β -methylglutaryl reductase, induction of, by thyroid gland hormones (GRIES, MATSCHINSKY, WIELAND) 615
- Hygromycin, chemically reduced —; isolation of 6-deoxy-D-altrose from, (ELBEIN, KOFFLER, GARNER) 165
- Indole-3-glycerol, formation of, by cell suspensions of *Lactobacillus plantarum* (TELTSCHER, GIBSON) 152
- Inosine triphosphate, hydrolysis of — by myosin; effect of temperature on rate of, (LEVY, SHARON, RYAN, KOSHLAND Jr.) 118
- [^{131}I]Insulin, interaction of normal human serum with, (DUNCOMBE, MANN) 193
- Insulin, — receptor reaction; observations on, (FONG, SILVER, POPENOE, DEBONS) 190
- Intestine, small — of hamster; phlorizin as competitive inhibitor of active sugar transport by, (ALVARADO, CRANE) 170
- Intestine, small —; characteristics of pyrimidine transport process of, (SCHANKER, TOCCO) 469
- Intestines, phosphatidate phosphatase from —; properties of, (JOHNSTON, BEARDEN) 365
- ^{131}I -Iodine, amphioxus treated with —;

- identification of labeled thyroxine and triiodothyronine in, (TONG, KERKOF, CHAIKOFF) 326
- o*-Iodophenolate, catalysis by — of ascorbate oxidation by oxygen; influence of sulfur compounds on, (PIHAR) . . . 159
- Isocitrate dehydrogenase, intra- and extra-mitochondrial — (LOWENSTEIN, SMITH) 385
- Isoleucine, biosynthesis of, in plants (SATYANARAYANA, RADHAKRISHNAN) . . 197
- Isomerase, methylmalonyl —; purification and properties of, (HERGE, MILLER, LANE) 538
- Isotopes, — emitting weak β -particles; simplified self-absorption correction for, (EVANS Jr.) 349
- Keratin, wool —; fractionation of, (BLACKBURN) 1
- Keratins, morphological components of —; molecular structure of, (EARLAND, BLAKEY, STELL) 268
- Lactobacillus plantarum*, cell suspensions of —; indole-3-glycerol formation by, (TELTSCHER, GIBSON) 152
- Lecithin, — from mutant strain of *Neurospora crassa*; fatty acid composition of, (HALL, NYC) 370
- Lipids, liver —; changes in fatty acid composition of, induced by CCl_4 and ethionine (HORNING, EARLE, MALING) 175
- Lipoproteins, soluble —; composition and structure of, (COOK, MARTIN) . . 362
- Liver, δ -aminolevulinic acid dehydratase activity in —; relation of, to substrate concentration (ONISAWA, LABBE) . . . 618
- Liver, rat — homogenate; 7-hydroxylation of dehydroepiandrosterone by, (STÁRKA, KÜTOVÁ) 76
- Liver, rat — mitochondria; influence of phosphorylcholine on endogenous oxidative phosphorylation of, (ROSSI, SARTORELLI, SILIPRANDI) 156
- Liver, — lipids; changes in fatty acid composition of, induced by CCl_4 and ethionine (HORNING, EARLE, MALING) 175
- Lysine, synthesis of —; relation of, to phylogeny (GILL, VOGEL) 200
- Malic dehydrogenase, crystalline supernatant — from beef-heart; preparation and properties of, (ENGLARD, BREIGER) 571
- Maltose, — fermenting systems in *Saccharomyces cerevisiae*; localization of (SUTTON, LAMPEN) 303
- Membrane, outer — of frog skin; effect of thiol-group-blocking agents on, (JANÁČEK) 42
- Membranes, relationship of intracellular distribution of sialic acid to, (PATTERSON, TOUSTER) 626
- Mesaconate, enzymic hydration of, by *Pseudomonas fluorescens* (KATSUKI, ARIGA, KATSUKI, NAGAI, EGASHIRA, TANAKA) 545
- Methionine, synthesis of, by enzymic transmethylation (DURELL, RAWITSCHER, STURTEVANT) 552
- Methyl transfer, — from betaine and S-methylmethionine bromide; enthalpy changes in, (DURELL, RAWITSCHER, STURTEVANT) 552
- Methylmalonyl isomerase, purification and properties of, (HERGE, MILLER, LANE) 538
- S-Methylmethionine bromide, methyl transfer from —; enthalpy changes in, (DURELL, RAWITSCHER, STURTEVANT) 552
- Michaelis complexes, artificial — of D-amino acid oxidase and "substrate substitutes"; crystallization of, (YAGI, OZAWA) 420
- Milk, xanthine oxidase from cow —; kinetics of catalysis of xanthine oxidation by, (ACKERMAN, BRILL) 397
- Mitochondria, hepatic —; correlation between effects of thyroidal hormones on, and their fixation and metabolism (ROCHE, RALL, MICHEL, MICHEL, VARONNE) 188
- Mitochondria, — isolated from Ehrlich ascites-tumour cells; pyridine nucleotide content of, (BORST, COLPA-BOONSTRA) 216
- Mitochondria, rat-liver —; influence of phosphorylcholine on endogenous oxidative phosphorylation of, (ROSSI, SARTORELLI, SILIPRANDI) 156
- Molybdenum, — toxicity in *Aspergillus niger*; influence of sulfur compounds on, (RAMAN, SIVARAMA SASTRY, SARMA) 195
- Muscle relaxing-factor system, separation and properties of, (NAGAI, UCHIDA, YASUDA) 205
- Mushroom, polyphenoloxidase from —; oxidation of tyrosine and tyrosine-containing peptides and proteins by, in presence of ascorbic acid (ROLLAND, LISSITZKY) 83, 95
- Myosin, rate of hydrolysis of adenosine triphosphate and inosine triphosphate by —; effect of temperature on, . . 118
- Nemin, protein with — activity; purification and properties of, (KUYAMA, PRAMER) 631
- Neuraminic acid, — residues of casein; function of, in action of rennin on casein (GIBBONS, CHEESEMAN) 354
- Neuraminidase, serum cholinesterase treated with, (AUGUSTINSSON, EKEDAH) 392
- Neurospora crassa*, mutant strain of —; fatty acid composition of lecithin and its phospholipid precursors from, (HALL, NYC) 370
- Nitrate, utilization of — nitrogen in *Rhizobium*; effect of cobalt deficiency on, (NICHOLAS, MARUYAMA, FISHER) . . 623
- Nocardia restrictus*, steroid 1-dehydrogenase of, (SIH, BENNETT) 584

- Notochord, spinal — of chick embryos; isolation of chondrogenic factor from, (HOMMES, VAN LEEUWEN, ZILLIKEN) . . . 320
- Nucleotidase, diphosphopyridine — from pig brain; solubilization and purification of, (WINDMUELLER, KAPLAN) . . . 388
- Ox, parathyroid hormone of —; purification of, by gel filtration (RASMUSSEN, CRAIG) . . . 332
- Ox, trypsin of —; purification of, by chromatography on methylcellulose (MAROUX, ROVERY, DESNUELLE) . . . 202
- Ox, trypsinogen of —; purification of, by chromatography on carboxymethylcellulose (MAROUX, ROVERY, DESNUELLE) . . . 202
- Ox, — heart; preparation and properties of crystalline supernatant malic dehydrogenase from, (ENGLARD, BREIGER) . . . 571
- Oxidase, aldehyde —; purification and properties of, (PALMER) . . . 444
- Oxidase, apo-enzyme and coenzyme and substrate of D-amino acid —; complex formation of, (YAGI, OZAWA) . . . 413, 420
- Oxidase, ascorbic acid —; reaction inactivation of, (TOKUYAMA, DAWSON) . . . 427
- Oxidase, succinic — system of respiratory chain; inhibitory effects of quinones on, (REDFEARN, WHITTAKER) . . . 440
- Oxidase, xanthine — from cow's milk; kinetics of catalysis of xanthine oxidation by, (ACKERMAN, BRILL) . . . 397
- Oxygen, ascorbate oxidation by —; influence of sulfur compounds on catalysis of, by o-iodophenolate (PIHAR) . . . 159
- Oxygen, — inhibition in *Azotobacter vinelandii* pyruvate oxidation (DILWORTH) . . . 127
- Parathyroid hormone, bovine —; purification of, by gel filtration (RASMUSSEN, CRAIG) . . . 332
- Particles, microscopic —; orientation of, in suspensions influenced by radio frequency fields (FÜREDI, VALENTINE) . . . 33
- β -Particles, weak — emitted by isotopes; simplified self-absorption correction for, (EVANS) . . . 349
- Pentose phosphate, reductive — cycle in purple and green photosynthetic sulphur bacteria; enzymes of, (SMILLIE, RIGOPOULOS, KELLY) . . . 612
- Peptides, — containing tyrosine; oxidation of, by mushroom polyphenol-oxidase in presence of ascorbic acid (ROLLAND, LISSITZKY) . . . 83, 95
- Peptides, — of angiotensin; titration of phenoxyl groups of, with sensitive spectrophotometric method (PAIVA, PAIVA) . . . 339
- Peptides, specific —; role of polypeptide synthetases in formation of, in presence of ribonucleoside triphosphates (BELJANSKI, BELJANSKI, LOVIGNY) . . . 559
- Peroxidase, interrelationship between — and ergothioneine and phenolic hormones (KLEBANOFF) . . . 460
- Phenolic hormones, interrelationship between — and ergothioneine and peroxidase (KLEBANOFF) . . . 460
- Phenoxyl groups, — of peptides of angiotensin; titration of, with sensitive spectrophotometric method (PAIVA, PAIVA) . . . 339
- Phlorizin, — as competitive inhibitor of active sugar transport by hamster small intestine *in vitro* (ALVARADO, CRANE) . . . 170
- Phlorizin, inhibition of haemolysis by, (GOOD) . . . 359
- Phosphatase, alkaline — of *E. coli*; incorporation of inorganic phosphate into, (ENGSTRÖM) . . . 606
- Phosphatase, intestinal phosphatidate —; properties of, (JOHNSTON, BEARDEN) . . . 365
- Phosphatase, phosphatidic acid —; distribution and properties of, (COLEMAN, HÜBSCHER) . . . 479
- Phosphate, inorganic —; incorporation of, into alkaline phosphatase of *E. coli* (ENGSTRÖM) . . . 606
- Phosphatidate phosphatase, intestinal —; properties of, (JOHNSTON, BEARDEN) . . . 365
- Phosphatides, determination of glycerol in, (RENKONEN) . . . 367
- Phosphatidic acid phosphatase, distribution and properties of, (COLEMAN, HÜBSCHER) . . . 479
- Phosphogluconate oxidation pathway, stimulation of, by pyruvate under anaerobic conditions in diaphragm muscle and rat brown adipose tissue (BELOFF-CHAIN *et al.*) . . . 153
- Phospholipid, — precursors of lecithin from mutant strain of *N. crassa*; fatty acid composition of, (HALL, NYC) . . . 370
- Phospholipids, metabolism of, (COLEMAN, HÜBSCHER) . . . 479
- Phosphoproteins, metabolism of —; precursors in, in cerebral tissue (HEALD, STANCER) . . . 111
- Phosphoramidate phosphoryl transfer enzyme, — extracted from *E. coli*; properties of, (FUJIMOTO, SMITH) . . . 501
- Phosphoramidates, metabolism of, (HOLZER, BURROW, SMITH) . . . 491
- (FUJIMOTO, SMITH) . . . 501
- Phosphorylation, endogenous oxidative — of rat-liver mitochondria; influence of phosphorylcholine on, (ROSSI, SARTORELLI, SILIPRANDI) . . . 156
- Phosphorylcholine, influence of, on endogenous oxidative phosphorylation of rat-liver mitochondria (ROSSI, SARTORELLI, SILIPRANDI) . . . 156
- Phylogeny, relation of lysine synthesis to, (GILL, VOGEL) . . . 200
- Pig, — brain; solubilization and purification of diphosphopyridine nucleotidase from, (WINDMUELLER, KAPLAN) . . . 388

- Plants, biosynthesis of valine and isoleucine in, (SATYANARAYANA, RADHAKRISHNAN) 197
- Plasmalogens, products of mild alkaline and mild acid hydrolysis of, (PIETRUSZKO, GRAY) 232
- Polypeptide antigen, synthetic —; metabolic fate of, (GILL, DAMMIN) 344
- Polypeptide synthetases, role of, in formation of specific peptides in presence of ribonucleoside triphosphates (BELJANSKI, BELJANSKI, LOVIGNY) 559
- Polyphenoloxidase, — from mushroom; oxidation of tyrosine and tyrosine-containing peptides and proteins by, in presence of ascorbic acid (ROLLAND, LISSITZKY) 83, 95
- Polysaccharide, purified acid — from electric organ of electric eel; interaction of quaternary ammonium bases with, (HASSÓN) 275
- Pregnenolone, *in vitro* synthesis of — by rat adrenal preparations; effect of Ca^{2+} and freezing on, (KORITZ) 63
- Propanol, 2,3-dimercapto-; oxidation of, (PHILIPSON) 375
- Protein, labelling of, by 2-imino-1,2-fluorenoquinone (GUTMANN, KING) 394
- Protein, synthesis of, in X-irradiated *P. spheroides* (CLAYTON, ADLER) 257
- Protein, — with nemin activity; purification and properties of, (KUYAMA, PRAMER) 631
- Protein, cross-reacting —; failure of production of, by ultraviolet-irradiated *E. coli* (MASTERS, PARDEE) 609
- Protein, Rhodospirillum haem —; acid and alkaline denaturation of, (ORLANDO) 252
- Proteins, — containing tyrosine; oxidation of, by mushroom polyphenoloxidase in presence of ascorbic acid (ROLLAND, LISSITZKY) 83, 95
- Proteins, tyrosyl residues of —; mechanism of oxidation of, by mushroom polyphenoloxidase (LISSITZKY, ROLLAND) 95
- Proteins, cupro — from human serum; isolation and characterization of, (RICHTERICH, TEMPERLI, AEBI) 240
- Pseudocholinesterase, — from horse serum; purification and properties of, (JANSZ, COHEN) 531
- Pseudomonas aeruginosa*, enzyme preparations from —; synthesis of a rhamnolipid by, (BURGER, GLASER, MAIN, BURTON) 172
- Pseudomonas fluorescens*, enzymic hydrolysis of mesaconate by, (KATSUKI, ARIGA, KATSUKI, NAGAI, EGASHIRA, TANAKA) 545
- Pyridine nucleotide, reduction of, associated with glucose metabolism by *E. coli* (ESTABROOK, MAITRA, SCOTT) 181
- Pyridine nucleotide, — content of mitochondria isolated from Ehrlich ascites-tumour cells (BORST, COLPA-BOONSTRA) 216
- Pyrimidine, — transport process of small intestine; characteristics of, (SCHANKER, TOCCO) 469
- Pyrimido-pyrimidine derivative, effect of, on non-specific enzymic stimulation *in vivo* (LITWACK) 593
- Pyruvate, stimulation by, of phosphogluconate oxidation pathway under anaerobic conditions in diaphragm muscle and in rat brown adipose tissue (BELOFF-CHAIN *et al.*) 153
- Pyruvate oxidation, — in *Azotobacter vinelandii*; oxygen inhibition in, (DILWORTH) 127
- Pyruvic acid, oxidation of, in thyroid tissue (DUMONT) 382
- Quinones, inhibitory effects of, on succinic oxidase system of respiratory chain (REDFEARN, WHITTAKER) 440
- Rat, cyanocobalamin absorption in —; effect of fluoracetate on, (LATNER, HODSON) 185
- Rat, — adrenal preparations; effect of Ca^{2+} and freezing on *in vitro* synthesis of pregnenolone by, (KORITZ) 63
- Rat, — brown adipose tissue; stimulation of phosphogluconate oxidation pathway in, by pyruvate under anaerobic conditions (BELOFF-CHAIN *et al.*) 153
- Rat, germ-free —; coenzyme Q in, (BIERI, MCDANIEL) 602
- Rat, — liver homogenate; 7-hydroxylation of dehydroepiandrosterone by, (STÁRKA, KÚTOVÁ) 76
- Rat, — liver mitochondria, influence of phosphorylcholine on endogenous oxidative phosphorylation of, (ROSSI, SARTORELLI, SILIPRANDI) 156
- Reductase, β -hydroxy- β -methylglutaryl —; induction of, by thyroid gland hormones (GRIES, MATSCHINSKY, WIELAND) 615
- RENNIN, action of — on casein; function of neuraminic acid residues in, (GIBBONS, CHEESEMAN) 354
- Respiratory chain, succinic oxidase system of —; inhibitory effects of quinones on, (REDFEARN, WHITTAKER) 440
- Rhamnolipid, synthesis of, by enzyme preparations from *P. aeruginosa* (BURGER, GLASER, BURTON) 172
- Rhizobium*, effect of cobalt deficiency on utilization of nitrate nitrogen in, (NICHOLAS, MARUYAMA, FISHER) 623
- Rhodospirillum haem protein, acid and alkali denaturation of, (ORLANDO) 252
- Rhodospirillum rubrum*, resting cells of —; early products of acetate incorporation in, (BENEDICT) 620
- Rhodopseudomonas spheroides*, β -hydroxy- β -methylglutaryl-coenzyme A cycle in —; enzymes of, (CARR) 604
- Rhodopseudomonas spheroides*, X-irradi-

- ated —; protein synthesis and viability in, (CLAYTON, ADLER) . . . 257
- Ribonucleoside triphosphates, formation of specific peptides in presence of —; role of polypeptide synthetases in, (BELJANSKI, BELJANSKI, LOVIGNY) . . 559
- Saccharomyces cerevisiae*, sucrose and maltose fermenting systems in —; localization of, (SUTTON, LAMPEN) . . . 303
- Serum, — cholinesterase treated with neuraminidase; properties of, (AUGUSTINSSON, EKEDAH) . . . 392
- Serum, horse —; purification and properties of pseudocholinesterase from, (JANSZ, COHEN) . . . 531
- Serum, human —; isolation and characterization of two cupro proteins from, (RICHTERICH, TEMPERLI, AEBI) . . . 240
- Serum, normal human —; interaction of, with [¹³¹I]insulin (DUNCOMBE, MANN) . . . 193
- Sialic acid, intracellular distribution of —; relationship of, to membranes (PATTERSON, TOUSTER) . . . 626
- Skin, outer membrane of frog —; effect of thiol-group-blocking agents on, (JANÁČEK) . . . 42
- Spinal notochord, see Notochord, spinal —;
- Spinal cord, see Cord, spinal —;
- Squalene, separation of, from sterols by gas chromatography (HOLMES, STACK) 163
- Steroid 1-dehydrogenase, — of *Nocardia restrictus* (SIH, BENNETT) . . . 584
- Sterols, separation of, from squalene by gas chromatography (HOLMES, STACK) 163
- Streptomycin, effect of, on greening and biosynthesis in *Euglena gracilis* (KIRK) 139
- Succinic acid, oxidation of —; mechanism of reduction of mitochondrial DPN⁺ coupled with, (SLATER, TAGER, SNOSWELL) . . . 177
- Succinic oxidase, — system of respiratory chain; inhibitory effects of quinones on, (REDFEARN, WHITTAKER) . 440
- Sucrose, systems fermenting — in *Saccharomyces cerevisiae*; localization of, (SUTTON, LAMPEN) . . . 303
- Sulfur bacteria, purple and green photosynthetic —; enzymes of reductive pentose phosphate cycle in, (SMILLIE, RIGOPOULOS, KELLY) . . . 612
- Sulfur compounds, influence of, on catalysis by *o*-iodophenolate of ascorbate oxydation by oxygen (PIHAR) . . . 159
- Sulfur compounds, influence of, on molybdenum toxicity in *Aspergillus niger* (RAMAN, SIVARAMA SASTRY, SARMA) . 195
- Sugar, active transport of —; phlorizin as competitive inhibitor of, by hamster small intestine *in vitro* (ALVARADO, CRANE) . . . 170
- Sugars, transport of, in yeast (DE LA FUENTE, SOLS) . . . 49
- Sugars, thymidine-linked —; enzymic synthesis of, (KORNFELD, GLASER) . . 184
- Synthetases, polypeptide —; role of, in formation of specific peptides in presence of ribonucleoside triphosphates (BELJANSKI, BELJANSKI, LOVIGNY) . . 559
- Thiol-groups, agents blocking —; effect of, on outer membrane of frog skin (JANÁČEK) . . . 42
- Thymidine diphosphate amino-sugars, enzymic synthesis of, (KORNFELD, GLASER) . . . 184
- Thyroidal hormones, effects of — on hepatic mitochondria; correlation between, and their fixation and metabolism (ROCHE, RALL, MICHEL, MICHEL, VARONNE) . . . 188
- Thyroidal hormones, induction of β -hydroxy- β -methylglutaryl reductase by, (GRIES, MATSCHINSKY, WIELAND) . . 615
- Thyroid tissue, pyruvate oxidation in, (DUMONT) . . . 382
- Thyronine, triiodo-; identification of labeled — in amphioxus treated with ¹³¹I (TONG, KERKOF, CHAIKOFF) . . . 326
- Thyroxine, identification of labeled — in amphioxus treated with ¹³¹I (TONG, KERKOF, CHAIKOFF) . . . 326
- Tissue, low-molecular-weight component of —; *in vitro* induction of vertebral cartilage with, (LASH, HOMMES, ZIL-LIKEN) . . . 313
- Tissue, cerebral —; precursors in metabolism of phosphoproteins in, (HEALD, STANCER) . . . 111
- Tissue, thyroid —; pyruvate oxidation in, (DUMONT) . . . 382
- Transmethylation, enzymic —; synthesis of methionine by, (DURELL, RAWITSCHER, STURTEVANT) . . . 552
- Trypsin, — of ox; purification of, by chromatography on carboxymethylcellulose (MAROUX, ROVERY, DESNUELLE) . . . 202
- Trypsin, stability of solutions of —; effect of aliphatic amino acids on, (GERATZ) . . . 599
- Trypsinogen, activation of —; effect of aliphatic amino acids on, (GERATZ) . 599
- Trypsinogen, — of ox; purification of, by chromatography on carboxymethylcellulose (MAROUX, ROVERY, DESNUELLE) . . . 202
- Tumour, Ehrlich ascites — cells; pyridine nucleotide content of mitochondria isolated from, (BORST, COLPA-BOONSTRA) 216
- Tyrosine, oxidation of, by mushroom polyphenoloxidase in presence of ascorbic acid (ROLLAND, LISSITZKY) . . . 83, 95
- Tyrosyl residues, — of proteins; mechanism of oxidation of, by mushroom polyphenoloxidase (LISSITZKY, ROLLAND) . . . 95
- Ubiquinone, see Coenzyme Q
- Urea, hydrolysis of — catalyzed by urease; temperature dependence of ¹⁴C

- kinetic isotope effects in, (LYNN, YANK-
WICH) 512
- Urease, hydrolysis of urea catalyzed by
—; temperature dependence of ^{14}C
kinetic isotope effects in, (LYNN, YANK-
WICH) 512
- Uridine diphosphate glucose-glycogen
glucosyltransferase, specificity of,
(GOLDBERG) 357
- Valine, biosynthesis of, in plants (SATY-
ANARAYANA, RADHAKRISHNAN) 197
- Wool, — keratin; fractionation of,
(BLACKBURN) 1
- Xanthine, oxidation of — by xanthine
oxidase from cow's milk; kinetics of
catalysis of, (ACKERMAN, BRILL) 397
- Xanthine oxidase, — from cow's milk;
kinetics of catalysis of xanthine oxi-
dation by, (ACKERMAN, BRILL) 397
- Yeast, mechanism of utilization of disac-
charides and related glycosides by,
(DE LA FUENTE, SOLS) 49
- Yeast, baker's —; occurrence of di-
phosphothiamine disulfide in, (OLIVO,
ROSSI, SILIPRANDI) 158
- Yeast, brewers⁶ —; uptake of adenine
by, (HARRIS, THOMPSON) 293

ERRATA

BIOCHIMICA ET BIOPHYSICA ACTA, VOL. 52 (1961)

- p. 212, line 31: change "0.05" into "0.01".
- p. 600, 3rd footnote (***) to Table I: change "Dow Corning Corp." into "General Electric Company".

BIOCHIMICA ET BIOPHYSICA ACTA, VOL. 53 (1961)

- p. 436, 3rd line below Table I: change "lyzed" into "talyzed".
- p. 563: the drawing to the legend Fig. 1 should replace the drawing to the legend Fig. 2 and *vice versa*.

BIOCHIMICA ET BIOPHYSICA ACTA, VOL. 54 (1961)

- p. 200, line 6: change "7.9" into "6.8".
line 7: change "0.705" into "0.655".
- p. 397, title: change "embryos" into "embryos".
- p. 441, line 22: change "by substituents" into "by *ortho* substituents."
- p. 469, SUMMARY, line 4: change " I " into " $I/2$ ".
- p. 473, Fig. 4, ordinate: change " $A_{1\text{ cm}}^1\%$ " into " $E_{1\text{ cm}}^1\%$ ".
- p. 586, add between line 32 and 33: "of hemoglobin) cannot be checked with the present crystal form".