

SUBJECT INDEX

- Acetate, utilization of, by yeast; effect of Cu^{2+} on, (ANTOINE) 351
- Actin, polymerised — solutions; sedimentation studies on, (JOHNSON, NAPPER, ROWE) 365
- F-Actin, bound ADP of; effect of sonic vibration on exchangeability and reactivity of, (ASAKURA, TANIGUCHI, OOSAWA) 140
- G-Actin, native — bound ATP; origin of, (TSUBOI) 359
- Actomyosin, — ATPase activities; effect of sonic vibration on, (ASAKURA, TANIGUCHI, OOSAWA) 142
- Adenosine diphosphate, bound — of F-actin; effect of sonic vibration on exchangeability and reactivity of, (ASAKURA, TANIGUCHI, OOSAWA) 140
- Adenosine triphosphatase, myosin and actomyosin — activities; effect of sonic vibration on, (ASAKURA, TANIGUCHI, OOSAWA) 142
- Adenosine triphosphate, native G-actin-bound —; origin of, (TSUBOI) 359
- Adrenal gland, of domestic duck; biosynthesis *in vitro* of radioactive corticosteroids from $[4\text{-}^{14}\text{C}]$ progesterone by slices of, (SANDOR, LANTHIER) 756
- Adrenocorticotropin, presence of pig-type — in sheep pituitaries (PICKERING *et al.*) 763
- α_8 -Adrenocorticotropin, isolation of, (PICKERING *et al.*) 763
- β -Alanine, inhibition in synthesis of, by D-serine (GRULA, GRULA) 776
- Albumin, bovine —; sulfhydryl group in, (BRUSH, JENSEN, JACOBSEN) 688
- Albumin, bovine serum —; apparent high reactivity of some amino groups of, (GREEN) 542
- Albumin, egg —; carbohydrate moiety of, (FLETCHER, MARSHALL, NEUBERGER) 311
- Alcohols, sugar —; factors affecting formation of, in ocular lens (KINOSHITA) 340
- Alkali, susceptibility to, of predominant carbohydrate-peptide linkage in ovine-submaxillary-gland glycoprotein (GRAHAM, MURPHY, GOTTSCHALK) 222
- Alkali ions, effect of, on glycine transport in Ehrlich-ascites tumour cells (KROMPHARDT *et al.*) 549
- Allergen, galactomannan-peptide — from *Trichophyton mentagrophytes*; structure of, (BARKER, CRUICKSHANK, MORRIS) 239
- Alloxan, — diabetic and normal animals; studies on CO_2 fixation in, (WAGLE, ASHMORE) 564
- Amino acid, — transport and accumulation; dependence of, on osmotic factors in vitamin B_6 -deficient *Lactobacillus arabinosus* (HOLDEN) 401
- Amino acids, N-terminal — of fibrinogen; application of radioisotopic yield to quantitation of, (VON KORFF *et al.*) 698
- Amino acids, pools and confluxes and transport of, in *Streptococcus faecium* (ISQUITH, CHESBRO) 642
- Amino acids, transport of; acid strength of amino group as factor in, (CHRISTENSEN, OXENDER) 386
- Amino group, acid strength of, as factor in transport of amino acids (CHRISTENSEN, OXENDER) 386
- Amino groups, of bovine serum albumin; apparent high reactivity of, (GREEN) 542
- Aminopterin, detoxication of, by acetylating enzyme of liver (KRISHNAMURTHY, BRAGANCA) 456
- Ammonium sulfate, — precipitation; fractionation of ribosomal protein from *E. coli* by, (SPITNIK-ELSON) 105
- Amphibia, yolk of, see Yolk
- Anas platyrhynchos*, — see Duck
- Androstenedione, — transport by rat intestine; glucuronide formation in, (KREEK *et al.*) 418
- Angiotensin, potentiation of pressor effects of, in alkaline solution (PALADINI, DELIUS, FRANZE DE FERNÁNDEZ) 168
- Animals, normal and alloxan-diabetic —; CO_2 fixation in, (WAGLE, ASHMORE) 564
- Antigen, synthetic polypeptide — devoid of charge (SELA, FUCHS) 797
- Antimycin A, effect of, on operation of Krebs cycle in baker's yeast (STOPPANI *et al.*) 132
- Ascites, Ehrlich — tumour cells; effect of alkali ions on glycine transport in, (KROMPHARDT *et al.*) 549
- Ascites, Ehrlich — tumour cells; effects of glucose and oxygen on metabolism of glycine by, *in vitro* (WILLIAMS, FINLAYSON, TEWS) 24
- Ascites, Ehrlich — tumour cells; effect of g-strophantin on glycine transport in, (BITTNER, HEINZ) 392
- Ascites, — tumour cells treated with carcinostatic ethyleneimine; DPN content of mitochondria from, (BORST, GRIMBERG, HOLZER) 785
- Ascites, — hepatoma cell; effect of oligomycin on phosphorylating respiration of, (MINAKAMI, YOSHIKAWA) 793
- D-Ascorbic acid, and collagen synthesis (VAN B. ROBERTSON) 137
- Ascorbic acid, microsomal — dependent

- oxidation of NADH₂; mechanism of, (STAUDINGER, ABRAHAM, SCHNEIDER) 547
- Bacteria, cell-wall fragments of; enzymic transfer of rhamnosyl units from thymidine diphosphate rhamnose to, (PAZUR, ANDERSON) 788
- Bacteria, host —; role of, in inducibility of colicin I production by ultraviolet light (AMATI) 783
- Bacteria, plasminogen activators from; quantitative estimation of, (ANDERSON) 554
- Barbiturates, inhibition of succinate oxidation by, in tightly coupled mitochondria (PUMPHREY, REDFEARN) 317
- Blood cells, separation of phosphorylated glycolytic intermediates and nucleotides and glycogen in, (ÖCKERMAN) 588
- Brain, hind — inducing substance; chromatographic separation of, into mesodermal and neural-inducing sub-fractions (TIEDEMANN, BECKER, TIEDEMANN) 557
- Brain, — mitochondria; preparative procedures for, (JÖBSIS) 60
- Brain, neonatal rat —; soluble enzymes and mitochondrial oxidations in, (RAPPOPORT, FRITZ, MORACZEWSKI) 42
- (MURTHY, RAPPOPORT) 51
- Brain, rat —; mitochondrial oxidation of citrate and isocitrate and associated phosphorylation in, (MURTHY, RAPPOPORT) 328
- Brockmann bodies, — see Langerhans
- Calcium, transport of, into muscles in response to serotonin and other hormones (WOOLLEY, GOMMI) 781
- Carbohydrate, — moiety of egg albumin (FLETCHER, MARSHALL, NEUBERGER) 311
- Carbohydrate-peptide linkage, in ovine-submaxillary-gland glycoprotein; susceptibility to alkali and to hydroxylamine of, (GRAHAM, MURPHY, GOTTSCHALK) 222
- Carbon dioxide, — fixation in normal and alloxan-diabetic animals (WAGLE, ASHMORE) 564
- Cartilage, frog —; acid mucopolysaccharides of, in thyroxine-induced metamorphosis (MATHEWS, HINDS) 198
- Cartilage, tissue culture of; production of chondroitin sulfate in, (GROSSFELD) 193
- Catecholamines, separation of, from plasma; use of Sephadex G-25 for, (MARSHALL) 158
- Cellulose, DEAE —; chromatography on, of glycopeptide fraction of human colostrum soluble in 50% ethanol (GOT *et al.*) 247
- Cell reserves, utilization of, by yeast; effect of Cu²⁺ on, (ANTOINE) 351
- Cell wall, fragments of bacterial —; enzymic transfer of rhamnosyl units from thymidine diphosphate rhamnose to, (PAZUR, ANDERSON) 788
- Cell wall, role of, as "primary reservoir" of vitamin B₁₂ in B₁₂-requiring *Lactobacillus* (SASAKI, KITAHARA) 170
- Chicken, — myofibrils, see Myofibrils
- Chlorella pyrenoidosa*, synchronous growth of; intracellular distribution of, P during, (BAKER, SCHMIDT) 75
- Chlorella pyrenoidosa*, synchronous growth of; intracellular distribution of S during, (JOHNSON, SCHMIDT) 428
- Chondroitin sulfate, production of, in tissue culture of cartilage (GROSSFELD) 193
- Chondroitin sulfate, serine-linked peptide of, (ANDERSON, HOFFMAN, MEYER) 309
- Citrate, mitochondrial oxidation of, and associated phosphorylation in rat brain (MURTHY, RAPPOPORT) 328
- Clostridium perfringens* type D, ϵ -toxin of; chemical modification of, (HABEED) 113
- Cod, — myosin, see Myosin
- Colicin I, role of host bacteria in inducibility of production of, by ultraviolet light (AMATI) 783
- Collagen, earthworm-cuticle —; denaturation and renaturation of, (MASER, RICE) 283
- Colostrum, human —; chromatography on DEAE-cellulose of glycopeptide fraction of, soluble in 50% ethanol (GOT *et al.*) 247
- Collagen, intermolecular defect of, in experimental lathyrism (GROSS) 314
- Collagen, — synthesis and D-ascorbic acid (VAN B. ROBERTSON) 137
- Collagen, — system of proteins; dispersion of, by concentrated salt solutions (CANDLISH) 275
- Copper ion, effect of, on utilization of glucose and acetate and cell reserves by yeast (ANTOINE) 351
- Corticosteroids, radioactive —; biosynthesis *in vitro* of, from [4-¹⁴C]progesterone by adrenal slices of domestic duck (SANDOR, LANTHIER) 750
- Cuticle, earthworm — collagen; denaturation and renaturation of, (MASER, RICE) 283
- Cyanuric fluoride, identification with, of bound tyrosine residues of insulin and lysozyme (KURIHARA, HORINISHI, SHIBATA) 678
- Cytochrome, — linked pyridine nucleotide reduction in heart mitochondria; energy requirement and reducing power for, (PACKER) 127
- Cytochrome *c*, rat-tissue — levels; alterations of, by chronic cold exposure (KLAIN) 778
- Diiodotyrosine, synthesis *in vitro* of thyroxine from, by myeloperoxidase and cell-free preparation of beef thyroid glands (YIP, KLEBANOFF) 747
- N,N*-Dimethylhydrazones, gas-chromatographic characterization of, steroid ketones as, (VANDENHEUVEL, HORNING) 56

- Dinitrophenol, oxidation of glutamate by rat-liver mitochondria in presence of; requirement for phosphate for, (CHARLES, TAGER, SLATER) 33
- Diphosphopyridine nucleotide, — content of mitochondria from ascites-tumour cells treated with carcinostatic ethyleneimine (BORST, GRIMBERG, HOLZER) 785
- Duck, adrenal slices of domestic —; biosynthesis *in vitro* of radioactive corticosteroids from [4-¹⁴C]progesterone by, (SANDOR, LANTHIER) 756
- Earthworm, — cuticle, see Cuticle
- Egg, — albumin; carbohydrate moiety of, (FLETCHER, MARSHALL, NEUBERGER) 311
- Enzyme, acetylating — of liver; detoxication of A-methopterin and aminopterin by, (KRISHNAMURTHY, BRANGANCA) 456
- Enzyme, iron-chelating —; formation *in vitro* of haemoglobin and myoglobin in presence of, (YONEYAMA *et al.*) 635
- Enzymes, glycolytic — in nucleus; radiosensitivity of, (HAGEN, ERNST, CEPICKA) 598
- Enzymes, soluble — in isolated neonatal rat brain (RAPPOPORT, FRITZ, MORACZEWSKI) 42
- Escherichia coli*, effects of streptomycin in; sequence of, (DUBIN, HANCOCK, DAVIS) 476
- Escherichia coli*, fractionation of ribosomal protein from, (SPITNIK-ELSON) 105
- Escherichia coli*, mutations in, that affect UDPG pyrophosphorylase activity and galactose fermentation (FUKASAWA, JOKURA, KURAHASHI) 608
- Escherichia coli*, strains B and B/r of; comparison of environmental effects on resistance of, to radiation and furacin (HRISHI) 490
- Estrogens, urinary —; modification of analysis of, by gas chromatography (WOTIZ) 122
- Estroprotein, — see Protein
- Ethyleneimine, carcinostatic —; DPN content of mitochondria from ascites-tumour cells treated with, (BORST, GRIMBERG, HOLZER) 785
- Fibrin, — substrate formed from plasminogen-free fibrinogen; quantitative estimation of urokinase and bacterial plasminogen activators with, (ANDERSON) 554
- Fibrinogen, N-terminal amino acids of; application of radioisotopic yield to quantitation of, (VON KORFF *et al.*) 698
- Fibrinogen, occurrence of phosphorus in, (BLOMBÄCK, BLOMBÄCK, SEARLE) 148
- Fibrinogen, plasminogen-free —; quantitative estimation of urokinase and bacterial plasminogen activators with fibrin substrate formed from, (ANDERSON) 554
- Fishes, teleost —; insulin biosynthesis *in vitro* in isolated islets of Langerhans of, (HUMBEL) 96
- Fishes, teleost —; metabolic activity *in vitro* of isolated islets of Langerhans of, (HUMBEL, RENOLD) 84
- Frog, — cartilage, see Cartilage
- β -Fructofuranosidase, — substrate called β -methylfructofuranoside; simple chemical synthesis of, (HORVATH, METZENBERG) 165
- Furacin, resistance of strains B and B/r of *E. coli* to; environmental effects on, (HRISHI) 490
- Galactomannan, — peptide allergen from *Trichophyton mentagrophytes*; structure of, (BARKER, CRUICKSHANK, MORRIS) 239
- Galactose, — fermentation; effect of mutations in *E. coli* on, (FUKASAWA, JOKURA, KURAHASHI) 608
- Globin, formation *in vitro* of haemoglobin and myoglobin in presence of, (YONEYAMA *et al.*) 635
- Glucosamine, terminal reducing — groups; specific analysis of, (YUKI, FISHMAN) 302
- Glucose, effect of, on metabolism of glycine by Ehrlich-ascites tumour cells *in vitro* (WILLIAMS, FINLAYSON, TEWS) 24
- Glucose, — oxidation; stimulation of, without glycogen deposition by oxytocin and vasopressin (PITTMAN, Jr., BOSHELL) 151
- Glucose, utilization of, by yeast; effect of Cu²⁺ on, (ANTOINE) 351
- Glucose, water-soluble — polymers involved in slime-mold development (WHITE, SUSSMAN) 173
- Glucose-glucose oxidase system, effect of, on synthesis *in vitro* of thyroxine from diiodotyrosine by myeloperoxidase and cell-free preparation from beef thyroid glands (YIP, KLEBANOFF) 747
- Glucuronic acid, terminal reducing — groups; specific analysis of, (YUKI, FISHMAN) 302
- Glucuronide, — formation in transport of testosterone and androstenedione by rat intestine (KREEK *et al.*) 418
- Glutamate, oxidation of, by rat-liver mitochondria in presence of DNP; requirement for phosphate for, (CHARLES, TAGER, SLATER) 33
- Gluten, — proteins; association of, in solution (WINZOR) 144
- Glycine, metabolism of, by Ehrlich-ascites tumour cells; effect of glucose and oxygen on, *in vitro* (WILLIAM, FINLAYSON, TEWS) 24
- Glycerylphosphorylethanolamine, from aqueous extracts of mitochondria; isolation and identification of, (GABLE, Jr.) 130
- Glycine, — transport in Ehrlich-ascites tumour cells; effect of alkali ions on,

- (KROMPHARDT *et al.*) 549
- Glycine, — transport in Ehrlich-ascites tumour cells; effect of g-strophantin on, (BITTNER, HEINZ) 392
- Glycogen, — deposition; stimulation of glucose oxidation without, by oxytocin and vasopressin (PITTMAN, Jr., BOSHELL) 151
- Glycogen, separation of, and phosphorylated glycolytic intermediates and nucleotides in blood cells (ÖCKERMAN) 588
- Glycolysis, in rat-liverslices (VAN ROSSUM) 15
- Glycolytic enzymes, — see Enzymes
- Glycolytic intermediates, phosphorylated —; separation of, and nucleotides and glycogen in blood cells (ÖCKERMAN) 588
- Glycopeptide, — fraction of human colostrum soluble in 50% ethanol; chromatography of, on DEAE-cellulose (GOT *et al.*) 247
- Glycopeptides, of pleuromucoid; preparation and purification of, (BOURILLON, GOT, MEYER) 255
- Glycoprotein, ovine-submaxillary-gland —; susceptibility to alkali and to hydroxylamine of predominant carbohydrate-peptide linkage in, (GRAHAM, MURPHY, GOTTSCHALK) 222
- α_1 -Glycoprotein, — see Pleuromucoid
- Haemoglobin, deoxygenated human —; hybridization of, (RANNEY *et al.*) 544
- Haemoglobin, formation *in vitro* of, from iron and protoporphyrin and globin in presence of iron-chelating enzyme (YONEYAMA *et al.*) 635
- Haemoglobin, human "slow-moving" — types; oxygen equilibria of, (HUISMAN, STIL, NECHTMAN) 69
- Haem protein, — see Protein
- Heparin, biosynthesis of; transfer of sulfate to small-molecular-weight acceptors during, (SPOLTER, RICE, MARX) 188
- Heart valves, bovine —; biosynthesis of mucopolysaccharides in, (BOSTRÖM, MORETTI, WHITEHOUSE) 213
- Heart, — mitochondria; energy requirement and reducing power for cytochrome-linked pyridine nucleotide reduction in, (PACKER) 127
- Heart, — muscles; comparison of relaxing-factor systems from, and skeletal muscles (PARKER Jr., BERGER) 730
- Hen, — oviduct, see Oviduct
- Hepatoma cell, ascites —, see Ascites
- Hormone, human growth —; preparation of, by gel filtration (Roos, FEVOLD, GEMZELL) 525
- Hormone, human β -melanocyte-stimulating —; properties of, (PICKERING, LI) 156
- Hormones, mammalian posterior lobe hormones; effects of, on swelling of liver and kidney mitochondria (GREENBAUM, DICKER) 519
- Hormones, transport of Ca into muscles in response to, (WOOLLEY, GOMMI) 781
- Hyaluronate, — hydrolysis by hyaluronate lyases (YUKI, FISHMAN) 302
- Hyaluronate lyases, hyaluronate hydrolysis by, (YUKI, FISHMAN) 302
- Hyaluronic acid, periodate oxidation of, (MONTGOMERY, NAG) 300
- Hydroxylamine, susceptibility to, of predominant carbohydrate-peptide linkage in ovine-submaxillary-gland glycoprotein (GRAHAM, MURPHY, GOTTSCHALK) 222
- Hypoxanthine, — nucleotides and muscular contraction (CAIN, KUSHMERICK, DAVIES) 735
- Insulin, — biosynthesis *in vitro* in isolated islets of Langerhans of teleost fishes (HUMBEL) 96
- Insulin, bound tyrosine residues of; identification of, with cyanuric fluoride (KURIHARA, HORINISHI, SHIBATA) 678
- Intestine, rat —; glucuronide formation in transport of testosterone and androstenedione by, (KREEK *et al.*) 418
- Iodide, — pool of thyroid studied with isotopic equilibrium method (SIMON) 565
- Iron, formation *in vitro* of haemoglobin and myoglobin in presence of, (YONEYAMA *et al.*) 635
- Iron-chelating enzyme, — see Enzyme
- Islets, of Langerhans, see Langerhans
- Isocitrate, mitochondrial oxidation of, and associated phosphorylation in rat brain (MURTHY, RAPPOPORT) 328
- Ketones, steroid —; gas-chromatographic characterization of, as *N,N*-dimethylhydrazones (VANDENHEUVEL, HORNING) 560
- Kidney, — mitochondria; effects of mammalian posterior lobe hormones on swelling of, (GREENBAUM, DICKER) 519
- Krebs cycle, in baker's yeast; effect of antimycin A on operation of, (STOPPANI *et al.*) 132
- Lactobacillus, B₁₂-requiring —; role of cell wall as "primary reservoir" of vitamin B₁₂ in, (SASAKI, KITAHARA) 170
- Lactobacillus arabinosus*, vitamin B₆-deficient —; dependence of amino acid transport and accumulation on osmotic factors in, (HOLDEN) 401
- Langerhans, isolated islets of, of teleost fishes; metabolic activity *in vitro* of, (HUMBEL, RENOLD) 84
- Langerhans, isolated islets of, of teleost fishes; insulin biosynthesis *in vitro* in, (HUMBEL) 96
- Lathyrism, experimental —; intermolecular defect of collagen in, (GROSS) 314
- Lens, ocular —; factors affecting formation of sugar alcohols in, (KINOSHITA *et al.*) 340
- Ligands, anomalous interactions of, with *Rhodospirillum haem* protein (TANIGUCHI, KAMEN) 438

- Lipoptides, from hen oviduct; metabolic properties of, (HENDLER). 667
- Lipoptides, isolation of, from hen oviduct (HENDLER). 659
- Liver, acetylating enzyme of; detoxication of A-methopterin and aminopterin by, (KRISHNAMURTHY, BRAGANCA). 456
- Liver, — mitochondria; effects of mammalian posterior lobe hormones on swelling of, (GREENBAUM, DICKER). 519
- Liver, rat — mitochondria; oxidative phosphorylation in stable sonic fragments of, (GREGG). 573
- Liver, rat — mitochondria; requirement for phosphate for oxidation of glutamate by, in presence of DNP (CHARLES, TAGER, SLATER). 33
- Liver, rat — slices; net Na and K movements in, (VAN ROSSUM). 1
- Liver, — slices; pyocyanin and metabolic pathways in, *in vitro* (LANDAU, HASTINGS, ZOTTU). 629
- Liver, rat — slices; respiration and glycolysis in, (VAN ROSSUM). 15
- Liver, — slices; substrate concentration and metabolic pathways in, *in vitro* (LANDAU, HASTINGS, ZOTTU). 621
- Lysozyme, bound tyrosine residues of; identification of, with cyanuric fluoride (KURIHARA, HORINISHI, SHIBATA). 678
- Mammals, hormones of, see Hormones
- Metabolic pathways, pyocyanin and, in liver slices *in vitro* (LANDAU, HASTINGS, ZOTTU). 629
- Metabolic pathways, substrate concentration and, in liver slices *in vitro* (LANDAU, HASTINGS, ZOTTU). 621
- β -Melanocyte-stimulating hormone, — see Hormone
- Melano-protein, — see Protein
- Melanotic urine, — see Urine
- Meromyosins, size and shape of; effects of ultrasonics on, (BÁRÁNY *et al.*). 551
- Mesodermal subfractions, chromatographic separation of hind-brain inducing substance into, and neural-inducing subfractions (TIEDEMANN, BECKER, TIEDEMANN). 557
- Metamorphosis, thyroxine-induced —; acid mucopolysaccharides of frog cartilage in, (MATHEWS, HINDS). 198
- A-Methopterin, detoxication of, by acetylating enzyme of liver (KRISHNAMURTHY, BRAGANCA). 456
- Methoxyindolyl glucosiduronic acids, isomeric — in melanotic urine (ATKINSON). 154
- β -Methylfructofuranoside, simple chemical synthesis of, (HORVATH, METZENBERG). 165
- Microsomes, ascorbic acid-dependent oxidation of NADH_2 by; mechanism of, (STAUDINGER, ABRAHAM, SCHNEIDER). 547
- Mitochondria, aqueous extracts of; isolation and identification of glycylphosphorylethanolamine from, (GAMBLE Jr.). 130
- Mitochondria, brain —; preparative procedures for, (JÖBSIS). 60
- Mitochondria, from ascites-tumour cells treated with carcinostatic ethyleneimine; DPN content of, (BORST, GRIMBERG, HOLZER). 785
- Mitochondria, heart —; energy requirement and reducing power for cytochrome-linked pyridine nucleotide reduction in, (PACKER). 127
- Mitochondria, liver and kidney —; effects of mammalian posterior lobe hormones on swelling of, (GREENBAUM, DICKER). 519
- Mitochondria, oxidation of citrate and isocitrate by, in rat brain (MURTHY, RAPPOPORT). 328
- Mitochondria, rat-liver —; oxidative phosphorylation in stable sonic fragments of, (GREGG). 573
- Mitochondria, rat-liver —; requirement for phosphate for oxidation of glutamate by, in presence of DNP (CHARLES, TAGER, SLATER). 33
- Mitochondria, tightly coupled —; inhibition of succinate oxidation by barbiturates in, (PUMPHREY, REDFEARN). 317
- Mitochondrial oxidations, neonatal — in rat brain (MURTHY, RAPPOPORT). 51
- Mold, slime-— development; water-soluble glucose polymers and acid mucopolysaccharides involved in, (WHITE, SUSSMAN). 173, 179
- Morgan-Elson reaction, study on, (LEABACK, WALKER). 299
- Mucopolysaccharides, acid — of frog cartilage in thyroxine-induced metamorphosis (MATHEWS, HINDS). 198
- Mucopolysaccharides, water-soluble acid — involved in slime-mold development (WHITE, SUSSMAN). 179
- Mucopolysaccharides, biosynthesis of, in bovine heart valves (BOSTRÖM, MORETTI, WHITEHOUSE). 213
- Muscles, heart and skeletal —; comparison of relaxing-factor systems of, (PARKER, Jr., BEGER). 730
- Muscles, transport of Ca into, in response to serotonin and other hormones (WOOLLEY, GOMMI). 781
- Muscular contraction, and hypoxanthine nucleotides (CAIN, KUSHMERICK, DAVIES). 735
- Myeloperoxidase, synthesis *in vitro* of thyroxine from diiodotyrosine by, (YIP, KLEBANOFF). 747
- Myofibrils, cross-striated —; reactivity of myosin to antibodies in, (SZENTGYÖRGYI, HOLTZER). 709, 722
- Myoglobin, formation *in vitro* of, from iron and protoporphyrin and globin in presence of iron-chelating enzyme (YONEYAMA *et al.*). 635
- Myosin, — ATPase activities; effect of

- sonic vibration on, (ASAKURA, TANIGUCHI, OOSAWA) 142
- Myosin, cod —; sedimentation and aggregation of, (CONNELL) 374
- Myosin, reactivity of, to antibodies in cross-striated chick myofibrils (SZENT-GYÖRGYI, HOLTZER) 709, 722
- L-Myosin, size and shape of; effects of ultrasonics on, (BÁRÁNY *et al.*) 551
- Neural-inducing subfractions, chromatographic separation of hind-brain inducing substance into, and mesodermal subfractions (TIEDEMANN, BECKER, TIEDEMANN) 557
- Nicotinamide-adenine dinucleotide, reduced —; mechanism of microsomal ascorbic acid-dependent oxidation of, (STAUDINGER, ABRAHAM, SCHNEIDER) 547
- Nicotinic acid, ring-labelled tritiated —; preparation of, by exchange in concentrated sulphuric acid (GUMBLEY, WILSON) 163
- Non-electrolytes, effect of cardioactive steroids on active transport of, (CSÁKY) 160
- Nucleotides, hypoxanthine — and muscular contraction (CAIN, KUSHMERICK, DAVIES) 735
- Nucleotides, separation of, and phosphorylated glycolytic intermediates and glycogen in blood cells (ÖCKERMAN) 588
- Nucleus, glycolytic enzymes in; radio-sensitivity of, (HAGEN, ERNST, CEPICKA) 598
- Oligomycin, effect of, on phosphorylating respiration of ascites hepatoma cell (MINAKAMI, YOSHIKAWA) 793
- Oligosaccharides, sulfated —; chromatographic separation of, (YAMASHINA *et al.*) 295
- Oviduct, hen —; isolation of "lipopeptides" from, (HENDLER) 659
- Oviduct, hen —; metabolic properties of "lipopeptides" from, (HENDLER) 667
- Ox, — albumin, see Albumin
- Ox, — heart valves, see Heart valves
- Ox, — serum albumin, see Albumin
- Ox, — thyroid glands, see Thyroid glands
- Oxygen, effect of, on metabolism of glycine by Ehrlich-ascites tumour cells *in vitro* (WILLIAMS, FINLAYSON, TEWS) 24
- Oxygen, — equilibria of "slow-moving" human hemoglobin types (HUISMAN, STIL, NECHTMAN) 69
- Oxytocin stimulation of glucose oxidation without glycogen deposition by, (PITTMAN, Jr., BOSHELL) 151
- Peptide, galactomannan — allergen from *Tricophyton mentagrophytes*; structure of, (BARKER, CRUICKSHANK, MORRIS) 239
- Peptide, serine-linked — of chondroitin sulfate (ANDERSON, HOFFMAN, MEYER) 309
- Peptide, see also Carbohydrate-peptide linkage
- Periodate, — oxidation of hyaluronic acid (MONTGOMERY, NAG) 300
- Pituitaries, sheep —; presence of pig-type adrenocorticotropin in, (PICERING *et al.*) 763
- Phosphatase, — reactions during tissue extractions (BIELESKI) 135
- Phosphate, requirement for, for oxidation of glutamate by rat-liver mitochondria in presence of DNP (CHARLES, TAGER, SLATER) 33
- Phosphorus, intracellular distribution of, during synchronous growth of *Chlorella pyrenoidosa* (BAKER, SCHMIDT) 75
- Phosphorus, occurrence of, in fibrinogen (BLOMBÄCK, BLOMBÄCK, SEARLE) 148
- Phosphorylation, mitochondrial oxidation of citrate and isocitrate and associated — in rat brain (MURTHY, RAPPOPORT) 328
- Phosphorylation, oxidative — in stable sonic fragments of rat-liver mitochondria (GREGG) 573
- Phosphorylating respiration, of ascites hepatoma cell; effect of oligomycin on, (MINAKAMI, YOSHIKAWA) 793
- Plasma, separation of catecholamines from; use of Sephadex G-25 for, (MARSHALL) 158
- Plasminogen, bacterial — activators; quantitative estimation of, (ANDERSON) 554
- Pleuromucoid, preparation and purification of glycopeptides from, (BOURRILLON, GOT, MEYER) 255
- Polypeptide, synthetic — antigen devoid of charge (SELA, FUCHS) 797
- Posterior lobe, — hormones, see Hormones
- Potassium, net — movement in rat-liver slices (VAN ROSSUM) 1
- [4-¹⁴C]Progesterone, biosynthesis *in vitro* of radioactive corticosteroids from, by adrenal slices of domestic duck (SANDOR, LANTHIER) 756
- Protein, estro —; formation of, (BROOKS *et al.*) 572
- Protein, melano —; incorporation of L-valine by particles of, *in vitro* (KARASEK, HULTIN) 467
- Protein, C-reactive — of human serum; purification of, (HOKAMA, RILEY) 307
- Protein, Rhodospirillum haem —; anomalous interactions of ligands with, (TANIGUCHI, KAMEN) 438
- Protein, ribosomal — from *E. coli*; fractionation of, (SPITNIK-ELSON) 105
- Proteins, collagen system of; dispersion of, by concentrated salt solutions (CANDLISH) 275
- Proteins, gluten —; association of, in solution (WINZOR) 144
- Proteins, skin —; distribution and nature and linkage of sialic acids in, (BOSE) 265

- Protoporphyrin, formation *in vitro* of haemoglobin and globin in presence of, (YONEYAMA *et al.*) 635
- Pyocyanin, and metabolic pathways in liver slices *in vitro* (LANDAU, HASTINGS, ZOTTU) 629
- Pyridine nucleotide, cytochrome-linked — reduction in heart mitochondria; energy requirements and reducing power for, (PACKER) 127
- 4-Pyridoxic acid, lactonization of, (AR-
GOUEDELIS, KUMMEROW) 568
- 5-Pyridoxic acid, lactonization of, (AR-
GOUEDELIS, KUMMEROW) 568
- Pyrophosphorylase, UDPG — activity; effect of mutations in *E. coli* on, (FUKASAWA, JOKURA, KURAHASHI) . . 608
- Radiation, resistance of strains B and B/r of *E. coli* to; environmental effects on, (HRISHI) 490
- Rat, — brain, see Brain
- Rat, — intestine, see Intestine
- Rat, — liver, see Liver
- Rat, — tissue, see Tissue
- Respiration, in rat-liver slices (VAN ROS-
SUM) 15
- Rhamnosyl units, enzymic transfer of, from thymidine diphosphate rhamnose to bacterial cell-wall fragments (PAZUR, ANDERSON) 788
- Rhodospirillum, — haem protein; anomalous interactions of ligands with, (TANIGUCHI, KAMEN) 438
- Ribosomes, from *E. coli*; fractionation of protein from, (SPITNIK-ELSON) 105
- Salt solutions, concentrated —; disper-
sion of collagen system of proteins
by, (CANDLISH) 275
- Selenate, biosynthesis of selenocystathio-
nine from, in *Stanleya pinnata* (VIRU-
PAKSHA, SHRIFT) 791
- Selenocystathionine, biosynthesis of, from
selenate in *Stanleya pinnata* (VIRU-
PAKSHA, SHRIFT) 791
- Sephadex G-25, use of, for separation of
catecholamines from plasma (MARS-
HALL) 158
- Serine, — -linked peptide of chondroitin
sulfate (ANDERSON, HOFFMAN, MEYER) 309
- D-Serine, inhibition in synthesis of β -ala-
nine by, (GRULA, GRULA) 776
- DL-Serine, O-acetyl- —; mechanism of
O,N-acyl shift in, (JOSEFSSON) 774
- Serotonin, transport of Ca into muscles in
response to, (WOOLLEY, GOMMI) 781
- Serum, human —; purification of acute
phase protein of, (HOKAMA, RILEY) . . 307
- Serum albumin, — see Albumin
- Sheep, — pituitaries, see Pituitaries
- Sheep, — submaxillary gland, see Sub-
maxillary gland
- Sialic acids, distribution and nature and
linkage of, in skin proteins (BOSE) . . 265
- Skeleton, — muscles; comparison of re-
laxing-factor systems of, and heart
muscles (PARKER Jr., BERGER) 730
- Skin, — proteins; distribution and
nature and linkage of sialic acids in,
(BOSE) 265
- Slime, — mold, see Mold
- Sodium, net — movement in rat-liver
slices (VAN ROSSUM) 1
- Stanleya pinnata*, biosynthesis of seleno-
cystathionine from selenate in, (VIRU-
PAKSHA, SHRIFT) 791
- Steroid, — ketones; gas-chromato-
graphic characterization of, as N,N-
dimethylhydrazones (VANDENHEUVEL,
HORNING) 560
- Steroid, — metabolism; studies in,
(WOTIZ) 122
- Steroids, cardioactive —; effect of, on
active transport of non-electrolytes
(CSÁKY) 160
- Streptococcus faecium*, pools and confluges
and transport of amino acids in, (Is-
QUITH, CHESBRO) 642
- Streptomycin, effects of, in *E. coli*; sequ-
ence of, (DUBIN, HANCOCK, DAVIS) . . 476
- g-Strophantin, effect of, on glycine trans-
port in Ehrlich-ascites tumour cells
(BITTNER, HEINZ) 392
- Submaxillary gland, ovine — glyco-
protein; susceptibility to alkali and to
hydroxylamine of predominant carbo-
hydrate-peptide linkage in, (GRAHAM,
MURPHY, GOTTSCHALK) 222
- Substrate, — concentration and meta-
bolic pathways in liver slices *in vitro*
(LANDAU, HASTINGS, ZOTTU) 621
- Succinate, inhibition of oxidation of, by
barbiturates in tightly coupled mito-
chondria (PUMPHREY, REDFEARN) . . 317
- Sugar alcohols, — see Alcohols
- Sulfate, transfer of, to small-molecular-
weight acceptors during biosynthesis
of heparin (SPOLTER, RICE, MARX) . . 188
- Sulphydryl group, in bovine albumin;
study of, (BRUSH, JENSEN, JACOBSEN) 688
- Sulfur, intracellular distribution of, during
synchronous growth of *Chlorella pyre-
noidosa* (JOHNSON, SCHMIDT) 428
- Sulphuric acid, concentrated —; prepa-
ration of ring-labelled tritiated nico-
tinic acid by exchange in, (GUMBLEY,
WILSON) 163
- Testosterone, — transport by rat in-
testine; glucuronide formation in,
(KREEK *et al.*) 418
- Thymidine diphosphate rhamnose, en-
zymic transfer of rhamnosyl units
from, to bacterial cell-wall fragments
(PAZUR, ANDERSON) 788
- Thyroid gland, iodide pool of, studied with
isotopic equilibrium method (SIMON) . 565
- Thyroid glands, beef —; synthesis *in vitro*
of thyroxine from diiodotyrosine by
cell-free preparation of, (YIP, KLEBA-
NOFF) 747
- Thyroxine, — -induced metamorphosis;

- acid mucopolysaccharides of frog cartilage in, (MATHEWS, HINDS) 198
- Thyroxine, synthesis *in vitro* of, from diiodotyrosine by myeloperoxidase and cell-free preparation of beef thyroid glands (YIP, KLEBANOFF) 747
- Tissue, — culture of cartilage; production of chondroitin sulfate in, (GROSSFELD) 193
- Tissue, — extractions; phosphatase reactions during, (BIELESKI) 135
- Tissue, instantaneous homogenization of, (LUDVIGSEN) 532
- Tissue, rat — cytochrome *c* levels; alteration of, by chronic cold exposure (KLAIN) 778
- ϵ -Toxin, of *Clostridium perfringens* type D; chemical modification of, (HABEEB) . . 113
- Trichophyton mentagrophytes*, galactomanan-peptide allergen from; structure of, (BARKER, CRUICKSHANK, MORRIS) 239
- Tumour, ascites —, see Ascites
- Tyrosine, bound — residues of insulin and lysozyme; identification of, with cyanuric fluoride (KURIHARA, HORNISHI, SHIBATA) 678
- Ultrasonics, effects of, on size and shape of L-myosin and meromyosins (BÁRÁNY *et al.*) 551
- Ultraviolet light, inducibility of colicin I production by; role of host bacteria in, (AMATI) 783
- Uridine diphosphate glucose pyrophosphorylase, — see Pyrophosphorylase
- Urine, estrogens from; modification of analysis of, by gas chromatography (WOTIZ) 122
- Urine, melanotic —; isomeric methoxyindolyl glucosiduronic acids in, (ATKINSON) 154
- Urokinase, quantitative estimation of, (ANDERSON) 554
- L-Valine, incorporation of, by melanoprotein particles *in vitro* (KARASEK, HULTIN) 467
- Vasopressin, stimulation of glucose oxidation without glycogen deposition by, (PITTMAN, Jr., BOSHELL) 151
- Vitamin B₆, —-deficient *Lactobacillus arabinosus*; dependence of amino acid transport and accumulation on osmotic factors in, (HOLDEN) 401
- Vitamin B₁₂, role of cell wall as "primary reservoir" of, in B₁₂-requiring *Lactobacillus* (SASAKI, KITAHARA) 170
- Yeast, baker's —; effect of antimycin A on operation of Krebs cycle in, (STOPPANI *et al.*) 132
- Yeast, utilization of glucose and acetate and cell reserves by; effect of Cu²⁺ on, (ANTOINE) 351
- Yolk, amphibian — platelets; analysis of main-body component of, (WALLACE) 505
- Yolk, amphibian — platelets; resolution of components of, (WALLACE) 495