SUBJECT INDEX

SOBJECT INDEA	
Actin Mg-polymer of ———————————————————————————————————	Studies on flagellar —— from sea urchin spermatozoa: I. Purification and some properties of the enzyme (Ogawa, Mohri) (256) 142 ATP synthesis Evidence for chemiosmotic coupling of electron transport to —— in spinach chloroplasts (Telfer, Evans) (256) 625 Azotobacter vinelandii Nitrogenase. I. Repression and derepression of the iron-molybdenum proteins and iron proteins of nitrogenase in —— (Shan et al.) (256) 498 Azotobacter vinelandii Nitrogenase. II. Changes in the EPR signal of Component I (iron-molybdenum protein) of —— nitrogenase during repression and derepression (Davis et al.) (256) 512 Bacillus subtilis Cytochrome system of cytoplasmic membranes and mesosomal membranes of —— (Ferrandes, Chaix) (256) 548 Bioluminescence Studies on the —— of Renilla reniformis. XI. Location of the sulphate group in luciferyl sulphate (Hori et al.) (256) 638 Brain Actomyosin-like protein from ——: Separation and characterization of the actin-like component (Puszkin, Berl) (256) 695 2-Bromoacetamide-4-nitrophenol Reaction of —— with heavy meromyosin ATPase (Uchida et al.) (256) 132 Calcium transport Effect of ruthenium red on —— and respiration in rat liver mitochondria (Vasington et al.) (256) 43 Carbon metabolism Regulatory effects of ammonia on —— in Chlorella pyrenoidosa during photosynthesis and respiration (Kanazawa et al.) (256)
Antimycin Allosteric binding of ——— to cytochrome b in the mitochondrial membrane (Berden, Slater) (256) 199 ATP	respiration in rat liver mitochondria (Vasington et al.) (256) 43 Carbon metabolism Regulatory effects of ammonia on ——— in Chlorella pyrenoidosa during photosynthesis and respiration (Kanazawa et al.) (256)
(Axelrod, Beevers) (256) 175 ATP Effect of —— on the EPR spectrum of phosphorylating sub-mitochondrial particles (Slater et al.) (256) 14 ATP Effect of —— on the apparent mid-point potentials of cytochrome b and cytochrome	Chemiosmotic coupling Evidence for of electron transport to ATP synthesis in spinach chloroplasts (Telfer, Evans) (256) 625 Chlorella Limiting reaction between two photoreactions of System II in (Bouges) (256) 381
c in beef-heart mitochondria (Berden et al.) (256) 594 ATPase Reaction of 2-bromoacetamide-4-nitrophenol with heavy meromyosin———— (Uchida et al.) (256) 132	Chlorella pyrenoidosa Changes in oxygen evolution induced by a long preillumination at 650 nm with (Delrieu) (256) 293 Chlorella pyrenoidosa Regulatory effects of ammonia on carbon

SUBJECT INDEX 715

metabolism in ——— during photosyn-Circular dichroism spectra of hydrogenase thesis and respiration (Kanazawa et al.) from ——— (Multani, Mortenson) (256) 66 (256) 656 Contractile protein possessing Ca2+ sensitivity (natural Chlorophyll - chlorophyll and chlorophyll water actomyosin) from leucocytes. Its extraction and some of its properties (Shibata et al.) interactions in the solid state (Ballschmiter, Katz) (256) 307 (256) 565 Cyanide Chloroplast Absorbance changes at 520 nm caused by Biochemical and biophysical studies on salt addition to ——— suspensions in the cytochrome aa₃. VI. Reaction of dark (Strichartz, Chance) (256) 71 with oxidized and reduced enzyme (Van Chloroplast Buuren et al.) (256) 258 Electrical transients of a -– bimolecular Cyanide lipid membrane elicited by light flashes Biochemical and biophysical studies on cytochrome aa₃. V. Binding of ——— to cytochrome aa₃ (Van Buuren et al.) (256) (Huebner, Tien) (256) 300 Chloroplast fluorescence High-potential cytochrome b-559 as a 243 secondary quencher of -Cyanide in the presence of 3-(3,4-dichlorophenyl)-1,1-dimethyl-Control of energy metabolism in platelets. urea (Cramer, Böhme) (256) 358 The effects of thrombin and glycolysis (Detwiler) (256) 163 Chloroplast grana Photochemical activity and structural Cyanidium caldarium studies of photosystem derived from -Effect of heat treatment on the activity in vitro of nitrate reductase from and stroma lamellae (Arntzen et al.) (256) (Rigano, Violante) (256) 524 85 Chloroplasts Cytochrome Actions of tetraphenylboron on the electron Extraction and purification of ¹H, ²H, and flow in Photosystem II of isolated isotope hybrid algal -----, ferredoxin and flavoprotein (Crespi et al.) (256) 611 (Homann) (256) 336 Cytochrome aa₃ Evidence for chemiosmotic coupling of Biochemical and biophysical studies on electron transport to ATP synthesis in IV. Some properties of oxygenated spinach ---(Telfer, Evans) (256) 625 cytochrome aa₃ (Tiesjema et al.) (256) 32 Cytochrome aa₃

Biochemical and biophysical studies on Chloroplasts Evidence for electronic and ionic interaction between electron transport chains in V. Binding of cyanide to cytochrome aa₃ (Van Buuren et al.) (256) 243 (Siggel et al.) (256) 328 Cytochrome aa₃ Chloroplasts Light-induced absorbance changes of P518 Biochemical and biophysical studies on in intact ——— (Larkum, Bonner) (256) -. VI. Reaction of cyanide with oxidized and reduced enzyme (Van Buuren et 396 Chloroplasts al.) (256) 258 Light-induced oxidation of cytochrome f in Cytochrome b isolated ——— of Pisum sativum (Larkum, Allosteric binding of antimycin to ---- in the mitochondrial membrane (Berden, Bonner) (256) 385 Chloroplasts Slater) (256) 199 Light requirements for proton movement Cytochrome b by isolated ——— as measured by the Effect of ATP on the apparent mid-point bromocresol purple indicator (Heath) (256) potentials of ____ and cytochrome c in 645 beef-heart mitochondria (Berden et al.) Chloroplasts Pigment systems and electron transport in Cytochrome b₅ -. II. Emerson enhancement in broken Retarded reduction of ——— following the spinach chloroplasts (Sun, Sauer) (256) 409 aerobic-anaerobic transition of intact rat Chromatophore fractions liver mitochondria (Wohlrab, Degn) (256)216 Cytochrome b₅₅₉ Purification and properties of a photosyn-High-potential thetic reaction center isolated from various ---- as a secondary quencher of chloroplast fluorescence in the of Rhodopseudomonas spheroides Y (Reiss-Husson, Jolchine) (256) 440 presence of 3-(3,4-dichlorophenyl)-1,1-dimethylurea (Cramer, Böhme) (256) 358 Citrate synthase Differential response of mitochondrial and Cytochrome b₅₅₉
Photoreduction of ——— in a Photosystem glyoxysomal ---- to ATP (Axelrod, Beevers) (256) 175 II subchloroplast particle (Ke et al.) (256)

345

Clostridium pasteurianum

/10	SUBJECT INDEX
Cytochromes b	signal of Component I (iron-molybdenum
Effect of pH on —— in ATP-Mg sub-	protein) of Azotobacter vinelandii nitro-
mitochondrial particles (Lee, Slater) (256) 587	genase during repression and derepression
Cytochromes b	(Davis et al.) (256) 512
Reduction kinetics of ——— (Boveris et al.)	EPR studies
(256) 223	Bacterial nitrate reductases: ——— nitrate
Cytochrome c	reductase A from Micrococcus denitrificans
Convenient micromethod for the estimation	(Forget, DerVartanian) (256) 600
of mitochondrial ——— (Slack, Bursell)	Escherichia coli
(256) 287	Study on chlorate-resistants mutants of
Cytochrome c	- K12. IV. Isolation, purification and
Effect of ATP on the apparent mid-point	study of nitrate reductase restored in vitro
potentials of cytochrome b and — in	by complementation (Azoulay et al.) (256)
beef-heart mitochondria (Berden et al.)	670
(256) 594	Ferredoxin
Cytochrome c	Effect of on bacterial photophos-
——— interaction with the mitochondrial	phorylation (Shanmugam, Arnon) (256) 487
membrane: A spin label study (Azzi et al.)	Ferredoxin
(256) 619	Extraction and purification of ¹ H, ² H, and
Cytochrome f	isotope hybrid algal cytochrome, ——— and
Light-induced oxidation of —— in iso-	flavoprotein (Crespi et al.) (256) 611
lated chloroplasts of Pisum sativum (Lar-	Ferredoxins
kum, Bonner) (256) 385	in light- and dark-grown photosyn-
Cytochrome oxidase	thetic cells with special reference to Rhodo-
Haeme-haeme interaction in — (Wilson	spirillum rubrum (Shanmugam et al.) (256)
et al.) (256) 277	477
Cytochrome system	Flagellar ATPase
of cytoplasmic membranes and	Studies on ——— from sea urchin sperma-
mesosomal membranes of Bacillus subtilis	tozoa: I. Purification and some properties of
(Ferrandes, Chaix) (256) 548	the enzyme (Ogawa, Mohri) (256) 142
Cytoplasmic membranes	Flavoprotein
Cytochrome system of ——— and mesoso-	Extraction and purification of ¹ H, ² H, and
mal membranes of Bacillus subtilis (Ferran-	isotope hybrid algal cytochrome, ferredoxin
des, Chaix) (256) 548	and ——— (Crespi et al.) (256) 611
Electron flow	Fluorescence
Actions of tetraphenylboron on the	High-potential cytochrome b-559 as a
in Photosystem II of isolated chloroplasts	secondary quencher of chloroplast ——
(Homann) (256) 336	in the presence of 3-(3,4-dichlorophenyl)-
Electron transport	1,1-dimethylurea (Cramer, Böhme) (256) 358
Evidence for chemiosmotic coupling of	Glycolysis
to ATP synthesis in spinach chloro-	Control of energy metabolism in platelets.
plasts (Telfer, Evans) (265) 625	The effects of thrombin and cyanide on
Electron transport	——— (Detwiler) (256) 163
Pigment systems and in chloro-	Glyoxysomal
plasts. II. Emerson enhancement in broken	Differential response of mitochondrial and
spinach chlorplasts (256) 409	——————————————————————————————————————
Electron transport chains	
Evidence for electronic and ionic interaction	Beevers) (256) 175 Haeme-haeme interaction
	——— in cytochrome oxidase (Wilson et al.)
between ——— in chloroplasts (Siggel et	
al.) (256) 328	(256) 277 Hydrogenase
Emerson enhancement	
Pigment systems and electron transport in	Circular dichroism spectra of ——— from Clostridium pasteurianum W5 (Multani,
chloroplasts. II. —————————————————————————————————	Mortenson) (256) 66
Energy metabolism Control of in platelets. The effects of	Iron-molybdenum proteins Nitrogenase. I. Repression and derepression
Control of —— in platelets. The effects of	
thrombin and cyanide on glycolysis (Detwiler) (256) 163	of the ——— and iron proteins of nitro-
Energy transfer	genase in Azotobacter vinelandii (Shah et
Reaction centre preparations of Rhodo-	al.) (256) 498
pseudomonas spheroides: ——— and struc-	Iron-molybdenum protein
	Nitrogenase. II. Changes in the EPR signal of Component I (———) of Azotobacter
ture (Slooten) (256) 452 EPR	vinelandii nitrogenase during repression and

Nitrogenase. II. Changes in the ----

EPR

vinelandii nitrogenase during repression and

derepression (Davis et al.) (256) 512

Iron proteins Mitochondria Nitrogenase. I. Repression and derepression of the iron-molybdenum proteins and - of nitrogenase in Azotobacter vinelandii (Shah et al.) (256) 498 (256) 24Iron-sulphur proteins Mitochondria in the succinate oxidase system Retarded reduction of cytochrome b₁ follow-(Albracht et al.) (256) 1 ing the aerobic-anaerobic transition of in-Leucocytes tact rat liver ---- (Wohlrab, Degn) (256) 216 Contractile protein possessing Ca²⁺ sensiti-Mitochondrial vity (natural actomyosin) from ———. Its Differential response of ——— and glyoxyextraction and some of its properties somal citrate synthase to ATP (Axelrod, (Shibata et al.) (265) 565 Beevers) (256) 175 Mitochondrial cytochrome c Light-induced absorbance changes - of P518 in intact chloroplasts Convenient micromethod for the estimation (Larkum, Bonner) (256) 396 --- (Slack, Bursell) (256) 287 Mitochondrial membrane Light-induced oxidation - of cytochrome f in isolated chloro-Allosteric binding of antimycin to cytoplasts of Pisum sativum (Larkum, Bonner) (256) 385 (256) 199 Light requirements Mitochondrial membrane - for proton movement by isolated Cytochrome c interaction with the chloroplasts as measured by the bromo-A spin label study (Azzi et al.) (256) 619 cresol purple indicator (Heath) (256) 645 Mitochondrial membrane Proton translocation and potassium ion Luciferyl sulphate Studies on the bioluminescence of Renilla reniformis. XI. Location of the sulphate group in ——— (Hori et al.) (256) 638 al.) (256) 55 Membrane Mitochondrial particles Electrical transients of a chloroplast bi-The effect of ATP on the ERP spectrum of molecular lipid ----- elicited by light flashes (Huebner, Tien) (256) 300 (256) 14 Membranes Molybdenum Protein composition of intact and fraction-Role of ---- in the synthesis of Neurospora nitrate reductase (Subramanian, ated ---- isolated from dark and light grown cells of a blue green mutant of Sorger) (256) 533 Rhodospirillum rubrum (BG1) (Kerber et Muscle fibrils al.) (256) 108 Nucleotide exchange on the F-Actin com-Meromyosin ATPase Reaction of 2-bromoacetamide-4-nitro-phenol with heavy ——— (Uchida et al.) (256) 132 mechanism (Appenheimer et al.) (256) 681 Mesosomal membranes Neurospora Cytochrome system of cytoplasmic mem-Role of molybdenum in the synthesis of branes and ---- of Bacillus subtilis (Ferrandes, Chaix) (256) 548 Sorger) (256) 533 Metarhodopsin II₃₈₀ Nitrate reductase Thermal decay of ——— in the frog retina Effect of heat treatment on the activity in (Gedney, Ostroy) (256) 577

Micrococcus denitrificans

Bacterial nitrate reductases: EPR studies on nitrate reductase A from ——— (Forget, DerVartanian), (256) 600

Mitochondria

'Crystal - like structures' of boiled beef heart ——— (Popinigis et al.) (256) 607

Mitochondria

Effect of ATP on the apparent mid-point potentials of cytochrome b and cytochrome c in beef-heart ——— (Berden et al.) (256) 594

Mitochondria

Effect of ruthenium red on calcium transport and respiration in rat liver -(Vasington et al.) (256) 43

Redox states of respiratory-chain components in rat-liver — III. 'Cross-over points' in site III (Grimmelikhuijzen, Slater)

chrome b in the ——— (Berden, Slater)

translocation across the ----- of respiring and respiration-deficient yeasts (Kovac et

phosphorylating sub——— (Slater et al.)

ponent of _____ in the states of contraction, relaxation, and rigor. The exchange as argument in the discussion of the contractile

nitrate reductase (Subramanian,

vitro of - from Cyanidium caldarium (Rigano, Violante) (256) 524

Nitrate reductase

Role of molybdenum in the synthesis of Neurospora — (Subramanian, Sorger) (256) 533

Nitrate reductase

Study on chlorate-resistant mutants of Escherichia coli K12. IV. Isolation, purification and study of ---- restored in vitro by complementation (Azoulay et al.) (256) 670

Nitrate reductases

---: EPR studies on nitrate Bacterial reductase A from Micrococcus denitrificans (Forget, DerVartanian) (256) 600

Nitrogenase	Photosynthetic chain
II. Changes in the EPR signal of	Reaction kinetics of intermediates of the
Component I (iron-molybdenum protein) of	between the two photosystems
Azotobacter vinelandii nitrogenase during	(Amesz et al.) (256) 370
repression and derepression (Davis et al.)	Photosynthetic reaction center
(256) 512 Nitrogenase	Purification and properties of a iso-
Nitrogenase Repression and derepression of	lated from various chromatophore fractions
—	of Rhodopseudomonas spheroides Y (Reiss-
proteins of nitragenase in Azotobacter vine-	Husson, Jolchine) (256) 440 Photosystem
landii (Shah et al.) (256) 498	Photochemical activity and structural
Oxidative phosphorylation	studies of ——— derived from chloroplast
Phosphate acceptor specificity during	grana and stroma lamellae (Arntzen et al.)
in submitochondrial particles (Val-	(256) 85
lin, Lundberg) (256) 179	Photosystem II
Oxygen evolution	Absence of —— in heterocysts of the
Changes in ——— induced by a long pre-	blue-green alga Anabaena (Donze et al.)
illumination at 650 nm with Chlorella	(256) 157
pyrenoidosa (Delrieu) (256) 293	Photosystem II
Oxygen-reducing system	Actions of tetraphenylboron on the electron
Further studies on the ——— of Anabaena	flow in —— of isolated chloroplasts
variabilis (Honeycutt, Krogmann) (256) 467	(Homann) (256) 336
P518	Photosystem-II subchloroplast particle
Light-induced absorbance change of ———	Photoreduction of cytochrome b ₅₅₉ in a
in intact chloroplasts (Larkum, Bonner)	(Ke et al.) (256) 345
(256) 396	Photosystems
Phosphate acceptor specificity	Reaction kinetics of intermediates of the
during oxidative phosphorylation in	photosynthetic chain between the two
submitochondrial particles (Vallin, Lund-	(Amesz et al.) (256) 370
berg) (256) 179	Pigment systems
Phosphate acceptor specificity	and electron transport in chloro-
NAD+-induced ——— in submitochondrial	plasts. II. Emerson enhancement in broken
systems (Vallin, Lundberg) (256) 191	spinach chloroplasts (Sun, Sauer) (256) 409
Phosphorylating sub-mitochondrial particles	Pisum sativum Light induced evidation of sytochrome fin
The effect of ATP on the QPR spectrum of ——— (Slater et al.) (256) 14	Light-induced oxidation of cytochrome f in Pisum sativum
Photochemical activity	Light-induced oxidation of cytochrome f in
and structural studies of photo-	isolated chloroplasts of ——— (Larkum,
system derived from chloroplast grana and	Bonner) (256) 385
Stroma lamellae (Arntzen et al.) (256) 85	Platelets
Photophosphorylation (250)	Control of energy metabolism in ————.
Effect of ferredoxin on bacterial	The effects of thrombin and cyanide on
(Shanmugam, Arnon) (256) 487	glycolisis (Detwiler) (256) 163
Photoreactions	Potassium ion translocation
Limiting reaction between two of	Proton translocation and ——— across the
System II in Chlorella (Bouges) (256) 381	mitochondrial membrane of respiring and
Photoreduction	respiration-deficient yeasts (Kovac et al.)
—— of cytochrome b ₅₅₉ in a Photo-	(256) 55
system-II subchloroplast particle (Ke et al.)	Protein composition
(256) 345	— of intact and fractionated mem-
Photosynthesis	branes isolated from dark and light grown
Action of 2-anilinothiophenes as accelera-	cells of a blue green mutant of Rhodo-
tors of the deactivation reactions in the	spirillum rubrum (BG ₁) (Kerber et al.)
water-splitting enzyme systems of ———	(256) 108
(Renger) (256) 428 Photosynthesis	Proton movement
Regulatory effects of ammonia on carbon	Light requirements of ———— by isolated
metabolism in Chlorella pyrenoidosa during	chloroplasts as measured by the bromocresol purple indicator (Heath) (256) 645
——————————————————————————————————————	Proton translocation (Teath) (250) 645
(256) 656	and potassium ion translocation
Photosynthetic cells	across the mitochondrial membrane of
Ferredoxins in light- and dark-grown —	respiring and respiration-deficient yeasts
with special reference to Rhodospirillum	(Kovac et al.) (256) 55
rubrum (Shanmugam et al.) (256) 477	Reaction centre

SUBJECT INDEX 719

,	, ,
preparations of Rhodopseudomonas spheroides: Energy transfer and structure (Slooten) (256) 452 Reaction kinetics ————————————————————————————————————	Rhodospirillum rubrum Protein composition of intact and fractionated membranes isolated from dark and light grown cells of a blue green mutant of ———————————————————————————————————
luciferyl sulphate (Hori et al.) (256) 638 Respiration Effect of ruthenium red on calcium transport and in rat liver mitochondria	Effect of —— on calcium transport and respiration in rat liver mitochondria (Vasington et al.) (256) 43 Submitochondrial particles
(Vasington et al.) (256) 43 Respiration Regulatory effects of ammonia on carbon metabolism in Chlorella pyrenoidosa during photosynthesis and (Kanazawa et al.) (256) 656	Effect of pH on cytochromes b in ATP-Mg ———— (Lee, Slater) (256) 587 Submitochondrial particles Phosphate acceptor specificity during oxidative phosphorylation in ————— (Vallin, Lundberg) (256) 179
Respiratory-chain Redox states of ———————————————————————————————————	Submitochondrial systems NAD+-induced phosphate acceptor specificity in ——— (Vallin, Lundberg) (256) 191 Succinate oxidase system Iron-sulphur proteins in the ——— (Al-
Respiration-deficient yeasts Proton translocation and potassium ion translocation across the mitochondrial membrane of respiring and ——— (Kovac et al.) (256) 55	bracht et al.) (256) I System II Limiting reaction between two photoreactions of ———————————————————————————————————
Retina Thermal decay of metarhodopsin II ₃₈₀ in the frog ——— (Gedney, Ostroy) (256) 577	Tetraphenylboron Action of ——— on the electron flow in Photosystem II of isolated chloroplasts
Rhodopseudomonas spheroides Purification and properties of a photosynthetic reaction centre isolated from various chromatophore fractions of ———————————————————————————————————	(Homann) (256) 336 Thermal decay — of metarhodopsin II ₃₈₀ in the frog retina (Gedney, Ostroy) (256) 577 Thrombin
Rhodopseudomonas spheroides Reaction centre preparations of Energy transfer and structure (Slooten) (256) 452	Control of energy metabolism in platelets. The effects of ———————————————————————————————————

- homologue of the green mutant of

of photosynthesis (Renger) (256) 428

Rhodopseudomonas spheroides (Peters, Cel-

Action of 2-anilionothiophenes as accelerators of the deactivation reactions in the

larius) (256) 544 Water-splitting enzyme system

Rhodopseudomonas spheroides

Rhodospirillum rubrum

Ubiquinone homologue of the green mutant of _____ (Peters, Cellarius) (256) 544

Ferredoxins in light- and dark-grown photosynthetic cells with special reference

to — (Shanmugam et al.) (256) 477