

Cumulative Contents

Review

The *c*-type cytochromes of methylotrophic bacteria

C. Anthony (U.K.)

1

Regular Papers

Patch-clamp studies of light-induced currents across the thylakoid membrane of isolated chloroplasts

A.A. Bulychov, V.F. Antonov and E.V. Schevchenko (USSR)

16

Multifrequency EPR investigations into the origin of the S_2 -state signal at $g = 4$ of the O_2 -evolving complex

A. Haddy, W.R. Dunham, R.H. Sands and R. Aasa (USA, Sweden)

25

Effects of NO_2 -modification of Tyr83 on the reactivity of spinach plastocyanin with cytochrome *f*

H.E.M. Christensen, L.S. Conrad and J. Ulstrup (Denmark)

35

Differential permeability for lipophilic compounds in uncoupler-resistant cells of *Escherichia coli*

E.G. Sedgwick and P.D. Bragg (Canada)

45

Mechanism of energization of uptake of the fluorescent dye 2-(4-dimethylaminostyryl)-1-ethylpyridinium cation $[DMP^+]$ into an *acrA* strain of *Escherichia coli*

E.G. Sedgwick and P.D. Bragg (Canada)

51

Manipulation of the imbalance for linear electron flow activities between Photosystems I and II of photosynthesis by cyclic electron flow cofactors

G. Braun, A.R.J. Drieseaar, E. Shalgi and S. Malkin (Israel)

57

Electron microscopy and image analysis of the GroEL-like protein and its complexes with glutamine synthetase from pea leaves

V.L. Tsuprun, E.J. Boekema, A.V. Pushkin and I.V. Tagunova (USSR, Netherlands)

67

Presence of two chlorophyll *a'* molecules at the core of Photosystem I

H. Maeda, T. Watanabe, M. Kobayashi and I. Ikegami (Japan)

74

The fluorescence yield of *Rhodospseudomonas viridis* in relation to the redox state of the primary electron donor

G. Deinum, F.A.M. Kleinherenbrink, T.J. Aartsma and J. Amesz (Netherlands)

81

Characterisation of photoinduced breakdown of the D1-polypeptide in isolated reaction centres of Photosystem II

C.A. Shipton and J. Barber (UK)

85

Mediation of glycosylated and partially-deglycosylated glucose oxidase of *Aspergillus niger* by a ferrocene derivatised detergent

D.M. Fraser, S.M. Zakeeruddin and M. Grätzel (Switzerland)

91

Influence of the size and protonation state of acidic residue 85 on the absorption spectrum and photoreaction of the bacteriorhodopsin chromophore

J.K. Lanyi, J. Tittor, G. Váró, G. Krippahl and D. Oesterhelt (USA, Germany)

102

Regular Papers

Low temperature effects on thylakoid protein phosphorylation and membrane dynamics

I. Carlberg, S. Bingsmark, F. Vennigerholz, U.K. Larsson and B. Andersson (Sweden)

111

Isoforms of cytochrome *c* oxidase in tissues and cell lines of the mouse

C. Van den Bogert, H.L. Dekker, J.C. Cornelissen, A.B.P. Van Kullenburg, P.A. Bolhuis and A.O. Muijsers (Netherlands)

118

Antipeptide antibodies to the carboxy terminal and the DCCD binding region of the human mitochondrial ATP synthase β -subunit

A.S. Noer, S. Marzuki and W.S. Allison (Australia, USA)

123

Calcium binding site(s) of Photosystem II as probed by lanthanides

A. Bakou, C. Buser, G. Dandoulakis, G. Brudvig and D.F. Ghanotakis (Greece, USA)

131

Induction of non-bilayer lipid phase separations in chloroplast thylakoid membranes by compatible co-solutes and its relation to the thermal stability of Photosystem II

W.P. Williams, A.P.R. Brain and P.J. Dominy (UK)

137

Properties of respiratory chain-linked Na^+ -independent NADH-quinone reductase in a marine <i>Vibrio alginolyticus</i> <i>M. Hayashi, T. Miyoshi, M. Sato and T. Unemoto (Japan)</i>	145	Are there really four manganese ions per centre of photosynthetic water oxidation? <i>S. Pauly and H.T. Witt (Germany)</i>	211
Biochemical evidence for the role of the bound iron-sulphur centres A and B in NADP reduction by Photosystem I <i>J.A. Hanley, J. Kear, G. Bredenkamp, G. Li, P. Heathcote and M.C.W. Evans (UK)</i>	152	Significant quantities of endogenous GDP and ADP are present on catalytic sites of the $\text{F}_1\text{-ATPase}$ isolated from <i>M. lysodeikticus</i> in the absence of added nucleotides <i>E.I. Mileykovskaya, S.S. Kormer and W.S. Allison (USA)</i>	219
Nicotinamide nucleotide transhydrogenase from <i>Rhodobacter capsulatus</i> ; the H^+/H^+ ratio and the activation state of the enzyme during reduction of acetyl pyridine adenine dinucleotide <i>T. Palmer and J.B. Jackson (UK)</i>	157	Light/dark regulation of photosynthetic enzymes within intact cells of the cyanobacterium <i>Nostoc</i> sp. <i>Mac</i> <i>P.A. Austin, I.S. Ross and J.D. Mills (UK)</i>	226
Independent fluorescence emission of the chlorophyll spectral forms in higher plant Photosystem II <i>G. Zucchelli, R.C. Jennings and F.M. Garlaschi (Italy)</i>	163	EPR evidence for nitric oxide production from guanidino nitrogens of L-arginine in animal tissues in vivo <i>L.N. Kubrina, W.S. Caldwell, P.I. Mordvintsev, I.V. Malenkova and A.F. Vanin (Russia, USA)</i>	233
Chemical structures critical for the induction of FMN-dependent NADH-quinone reductase in <i>Escherichia coli</i> <i>T. Unemoto, H. Shimada and M. Hayashi (Japan)</i>	170	5'-Nucleotidase activity and adenosine production in rat liver mitochondria <i>M.J.P. Raatikainen, K.J. Peuhkurinen, K.T. Kiriluuoma, J.K. Hiltunen and I.E. Hassinen (Finland)</i>	238
Energy transfer from long-wavelength absorbing antenna bacteriochlorophylls to the reaction center <i>F.A.M. Kleinherenbrink, G. Deinum, S.C.M. Otte, A.J. Hoff and J. Amez (Netherlands)</i>	175	The influence of diphenylcarbazine and hydrazobenzene on the binding of the herbicide chlorotoluron to isolated thylakoids <i>Z.G. Cerović and J.-M. Briantais (Yugoslavia, France)</i>	247
Rapid Report		The role(s) of adenylate kinase and the adenylate carrier in the regulation of plant mitochondrial respiratory activity <i>A.-C. Fricaud, A.J. Walters, D.G. Whitehouse and A.L. Moore (UK)</i>	253
Cytochrome <i>c</i> oxidase: the presumptive channel holds at least four water molecules <i>J.A. Kornblatt and M.J. Kornblatt (Canada)</i>	182	The acridones, new inhibitors of mitochondrial NADH:ubiquinone oxidoreductase (complex I) <i>W. Oettmeier, K. Masson and M. Soll (Germany)</i>	262
Regular Papers		Partial uncoupling of energy transfer from phycoerythrin in the marine cyanobacterium <i>Synechococcus</i> sp. WH7803 <i>P. Heathcote, M. Wyman, N.G. Carr and G.S. Beddard (UK)</i>	267
Localization in Photosystem II of the histidine residue putatively responsible for thermoluminescence A_1 -band as probed by trypsin accessibility <i>T.-a. Ono and Y. Inoue (Japan)</i>	185	Rapid Report	
The reaction center of Photosystem II studied with polarized fluorescence spectroscopy <i>S.L.S. Kwa, W.R. Newell, R. Van Grondelle and J.P. Dekker (Netherlands)</i>	193	High degree of organization of bacteriochlorophyll <i>c</i> in chlorosome-like aggregates spontaneously assembled in aqueous solution <i>M. Hirota, T. Moriyama, K. Shimada, M. Miller, J.M. Olson and K. Matsuura (Japan, Denmark)</i>	271
The influence of salts on charge separation ($\text{P680}^+\text{Q}_\text{A}^-$) and water oxidation of Photosystem II complexes from thermophilic cyanobacteria. Active and inactive conformational states of Photosystem II <i>S. Pauly, E. Schlodder and H.T. Witt (Germany)</i>	203	<i>Cumulative Contents, Vol. 1099</i>	275
		<i>Author Index</i>	277