

Contents

Vol. 49, No. 5, 2004

Simultaneous English language translation of the journal is available from MAIK "Nauka/Interperiodica" (Russia).
Biophysics ISSN 0006-3509.

Molecular Biophysics

Ultrasound-Induced Formation of Nitrogen Oxide and Nitrosonium Ions in Water and Aqueous Solutions <i>I. I. Stepuro, R. I. Adamchuk, and V. I. Stepuro</i>	705
¹ H NMR Study of the Self-Association of the Hexadeoxynucleotide 5'-d(GpCpApTpGpC) in Aqueous Solution <i>A. N. Veselkov, V. I. Pakhomov, O. V. Rogova, V. S. Volynkin, L. N. Djimant, R. J. Eaton, and D. B. Davies</i>	713
Formation of Liquid-Crystalline Dispersions of DNA-Chitosan Complexes under Molecular Crowding Conditions <i>Yu. M. Yevdokimov, V. I. Salyanov, A. S. Krylov, Yu. D. Nechipurenko, and A. M. Wolf</i>	720
Molecular Mobility in Natural Polymers: <i>Bombyx mori</i> Silk with Low Water Content as Studied by ¹ H DQF NMR <i>V. V. Rodin and D. P. Knight</i>	730
Study of the Effect of Radiation Hardness on the Substrate Properties of Fluoropolymer Matrix Modified with Polyanionic Biologically Active Substances <i>G. A. Davydova, I. I. Selezneva, and B. K. Gavrilov</i>	738
Rotenone-Insensitive NADH Oxidation in a Mitochondrial Suspension is Catalyzed by Respiratory Chain NADH Dehydrogenase <i>I. V. Sharova and N. L. Vekshin</i>	743

Cell Biophysics

The System of Hydrogen Bonds of <i>Rhodobacter sphaeroides</i> Reaction Centers Regulates the Temperature Dependence of the Recombination of Photooxidized Bacteriochlorophyll and Primary Quinone Acceptor <i>P. M. Krasilnikov, D. Bashtovy, P. P. Knox, and V. Z. Pashchenko</i>	751
Temperature Dependence of High-Resolution ¹ H NMR Spectra of <i>Rhodobacter sphaeroides</i> Photosynthetic Reaction Centers in the 25–40°C Range <i>V. P. Timofeev, P. P. Knox, N. I. Zakharova, N. Kh. Seifullina, and A. B. Rubin</i>	757
Effect of Methylmercury on Primary Photosynthetic Processes in Higher Plants <i>G. P. Kukarskikh, E. E. Graevskaya, O. G. Lavrukhina, T. E. Krendeleva, and A. B. Rubin</i>	760
Low-Energy Light in the 620–660 nm Range Reduces the UV-B-Induced Damage to Photosystem II in Spinach Leaves <i>V. D. Kreslavskii, A. A. Ivanov, and A. A. Kosobryukhov</i>	767
Erythrocyte Membrane Damage by High-Intensity Ultrasound <i>I. E. Adzerikho, N. M. Kozlova, A. N. Antonovich, G. P. Zubritskaya, and E. I. Slobozhanina</i>	772
Fractal Gating Properties of Voltage-Gated K ⁺ Channels in <i>Lymnaea stagnalis</i> Neurons <i>V. N. Kazachenko, K. V. Kochetkov, M. E. Astashev, and A. A. Grinevich</i>	779
Study of the Causes of the Biological Effect of Electrochemically Activated Solutions as Determined from Changes in the <i>Escherichia coli</i> Cell Growth <i>A. I. Miroshnikov</i>	792

Reconstruction of the Dynamics of the Acetylcholine Concentration
in the Synaptic Gap in Response to Single-Quantum Signal

A. I. Skorinkin and A. R. Shaikhutdinova

798

Two-Component Model of the Neuron for Relating the Postsynaptic Potentials
and Currents Measured by the Patch-Clamp Technique

A. V. Chizhov

803

Complex Systems Biophysics

Contractile Characteristics and Sarcomeric Cytoskeletal Proteins of Human Soleus Fibers
in Muscle Unloading: Role of Mechanical Stimulation from the Support Surface

B. S. Shenkman, Z. A. Podlubnaya, I. M. Vikhlyantsev, K. S. Litvinova, S. N. Udal'tsov,
T. L. Nemirovskaya, Yu. S. Lemesheva, A. M. Mukhina, and I. B. Kozlovskaya

807

Spin-Echo NMR Study of the Translational Water Diffusion Selectively
along the Apoplast and the Cytoplasmic and Vacuolar Symplasts of Plants

A. V. Anisimov, I. F. Ionenko, and A. V. Romanov

816

Model of Resource Reallocation during Physiological Adaptation
of Females of the Mediterranean Fruit Fly *Ceratitis capitata*

A. A. Romanyukha, J. R. Carey, A. S. Karkach, and A. I. Yashin

822

Spontaneous Sector Formation in Soil Streptomyces Colonies

A. P. Savel'ev

828

Regulation of the Composition of an Ecological Community
by Varying the Ratio of Resources in a Medium

P. V. Fursova and A. P. Levich

836

Visual Associative Memory and the Orientation-Contingent Color Aftereffect

V. V. Maksimov and P. V. Maksimov

844

Responses of the Human Nervous System to Complex-Frequency Light Stimuli

A. T. Bondar', A. V. Larionova, O. V. Pivovarova, and A. I. Fedotchev

851

Fluorescence of Endogenous Porphyrins Recorded *In Situ*
from Surfaces of Gastric and Duodenal Ulcers during Laser Therapy

G. I. Klebanov[†], D. A. Rogatkin, and S. G. Tereshchenko

857

Discussions

Methodological Differences between Physical and Computational Model Approaches

A. Favorov

863