

# Contents

---

---

## Vol. 53, No. 1, 2008

Simultaneous English language translation of the journal is available from Pleiades Publishing, Inc.  
Distributed worldwide by Springer. *Biophysics* ISSN 0006-3509.

---

---

### Molecular Biophysics

X-Ray- and Heat-Induced Generation of Hydrogen Peroxide  
and Hydroxyl Radicals in Aqueous Solutions of L-Amino Acids

*I. N. Shtarkman, S. V. Gudkov, A. V. Chernikov, and V. I. Bruskov*

1

The Role of Stacking Interactions in the Binding of the NMDA Receptor Glycine Site  
with Antagonists and 3-Hydroxykynurenone

*G. A. Zakharov, A. V. Popov, E. V. Savvateeva-Popova, and B. F. Shchegolev*

8

Dynamics of Transfer of Charge Carriers in DNA Molecule

*N. V. Grib, Yu. A. Berashevich, and V. E. Borisenko*

15

Peculiar Features of Kink Dynamics in Inhomogeneous DNA

*L. V. Yakushevich and L. A. Krasnobaeva*

21

Mechanisms of Interaction of Tetrahydrocortisol

and Its ApoA-I Complex with a Model DNA Regulatory Element CC(GCC)<sub>5</sub>/GG(CGG)<sub>5</sub>

*L. E. Panin, V. G. Kunitsyn, and L. M. Polyakov*

26

DNA Complexes with Polycations Useful  
for Delivery of DNA into Cells

*N. A. Kas'yanenko, N. B. Zakharova, D. A. Mukhin,*

*A. V. Slita, O. V. Nazarova, E. A. Leont'eva, and E. F. Panarin*

31

A "Microscopic" Model of Complexation between Intercalators and DNA:  
Analysis of NMR Spectroscopy Data

*M. P. Evstigneev, D. A. Beshnova, and A. O. Rozvadovskaya*

38

Refolding of a Model Polymer Interacting with a Nanotube

*I. V. Fedik and K. V. Shaitan*

44

---

### Complex Systems Biophysics

Effect of Ionizing Radiation on the Synthetic Activity of Blood System Cells  
in Ground Squirrels in Different Physiological States

*N. A. Karnaukhova, L. A. Sergievich, D. A. Ignat'ev, and V. N. Karnaukhov*

49

A Neural Network Dynamic Model Reproducing the Output Signal of the Ganglion Cell

*S. A. Gladilin and D. G. Lebedev*

59

Investigation and Comparative Characteristic of Factors Determining Human Skin Elasticity

*G. A. Timofeev, E. E. Faustova, V. N. Fedorova, A. B. Timofeev, and L. S. Kornopeleva*

63

---

## Discussions

Are There Different Velocity Types of Action Potentials in Higher Plants?

*S. S. Pyatygin*

81

What Are the Genuine Action Potentials in Plants?

*A. V. Galkin*

87

---

Author Index to Volume 52, 2007

89

Subject Index to Volume 52, 2007

97

Contents of Volume 52, 2007

113

---