

ISSN 1990-7931

RUSSIAN JOURNAL OF PHYSICAL CHEMISTRY B

Focus on Physics

**Editor-in-Chief
Maksim G. Golubkov**

Pleiades
Publishing Group
Over **50** years
In the service of
science and education

<https://pleiades.online>
<https://link.springer.com>



PLEIADES GROUP OF COMPANIES

Distributed by **SPRINGER NATURE**



Volume 20, Issue 6
June 2026

ISSN 1070-4280
CODEN RJPCHB

12 articles in this issue

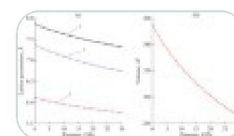
The FT-IR Spectroscopic and Theoretical Studies of the Hymexazol Molecule: A DFT Approach



STRUCTURE OF CHEMICAL COMPOUNDS, QUANTUM CHEMISTRY, SPECTROSCOPY

20 July 2026 | Pages: 561 - 571

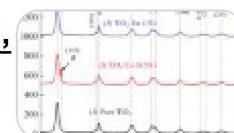
Exploring the Structural, Elastic, Mechanical, and Electronic Properties of Orthorhombic Li_4GeO_4 under Pressure



STRUCTURE OF CHEMICAL COMPOUNDS, QUANTUM CHEMISTRY, SPECTROSCOPY

20 July 2026 | Pages: 572 - 581

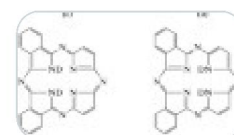
Sol–Gel Synthesized Europium-Doped TiO_2 Aerogels: Structural, Optical, and Luminescence Properties



STRUCTURE OF CHEMICAL COMPOUNDS, QUANTUM CHEMISTRY, SPECTROSCOPY

20 July 2026 | Pages: 582 - 590

Deuterated *cis*- and *trans*-Di[benzo]porphyrazines: Theoretical Consideration of (D,D)-Isomerism using the DFT Model Chemistries



STRUCTURE OF CHEMICAL COMPOUNDS, QUANTUM CHEMISTRY, SPECTROSCOPY

20 July 2026 | Pages: 591 - 596

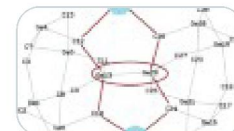
Tuning Structure, Stability and Electronic Properties of Two-Dimensional Tin Carbide in Multi-Ion “Lithium/Sodium/Beryllium/Magnesium” Batteries: Density of States Analysis through Density Functional Theory Simulation



STRUCTURE OF CHEMICAL COMPOUNDS, QUANTUM CHEMISTRY, SPECTROSCOPY

20 July 2026 | Pages: 597 - 607

Analysis of Electronic Structure and Spectral Properties with Mastering the Density of States for Germanium Carbide Nanoparticles through Al, B, Ga Encapsulation instead of Li in Ion Batteries: A Density Functional Theory Study



STRUCTURE OF CHEMICAL COMPOUNDS, QUANTUM CHEMISTRY, SPECTROSCOPY |

20 July 2026 | Pages: 608 - 617

Sol–Gel Dip-Coated $\text{Cu}_2\text{ZnSnS}_4$ Thin Films as High-Performance Absorber Layers for Solar Cells: Experimental Investigations Combined with DFT Simulations



STRUCTURE OF CHEMICAL COMPOUNDS, QUANTUM CHEMISTRY, SPECTROSCOPY |

20 July 2026 | Pages: 618 - 625

Signaling and Antioxidant Reactivity of a Hybrid No Donating Compound in Bacterial Cells

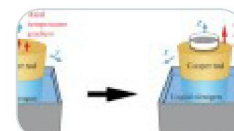


CHEMICAL PHYSICS OF BIOLOGICAL PROCESSES | 20 July 2026 | Pages: 626 - 631

The Effects of Environmental Conditions on Biological Systems. I. General Patterns of Meteosensitivity

CHEMICAL PHYSICS OF ECOLOGICAL PROCESSES | 20 July 2026 | Pages: 632 - 641

Effect of Carbon Black on the Morphology, Mechanical Properties and Electrical Conductivity of Porous Composites based on Natural Polymers



CHEMICAL PHYSICS OF POLYMER MATERIALS | 20 July 2026 | Pages: 642 - 653

Processes Leading to a Localized Decrease in Air Humidity Prior to the Earthquake



DISCUSSION MANUSCRIPTS | 20 July 2026 | Pages: 654 - 661

Study of High-Temperature Oxidation of Combustible Mixtures and Heterogeneous Catalysis Based on the Ignition Criterion



