

Saint-Petersburg State University, University of Leipzig,
D. I. Mendeleev' Russian Chemical Society,
Russian Academy of Sciences



**Fifth International Conference on
Organic Chemistry for Young Scientists (InterYCOS-2009)**



“Universities Contribution in the Organic Chemistry Progress”

*devoted to the 175th anniversary of D.I. Mendeleev birthday and 80th anniversary of the
Chemistry Department of St. Petersburg State University foundation*



June 22–25, 2009

Saint-Petersburg, RUSSIA

Book includes abstracts **Fifth International Conference on Organic Chemistry for Young Scientists (InterYCOS-2009)** “Universities Contribution in the Organic Chemistry Progress” devoted to the 175th anniversary of D. I. Mendeleev birthday and 80th anniversary of the Chemistry Department of Saint-Petersburg State University foundation.

Conference was carried out by Saint-Petersburg State University, Saint-Petersburg Branch of Russian Chemical Society named after D.I. Mendeleev and Saint-Petersburg Scientific Center of Russian Academy of Science.

Programme of the conference includes plenary lectures, oral communications and poster sessions on the following aspects of chemistry:

1. Organic synthesis;
2. Mechanisms of organic reactions;
3. Physical methods in organic chemistry;
4. Bioorganic and polymer chemistry.

Organizing committee of the conference InterYCOS-2009:

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| Organic synthesis | Prof. Dr. A.F. Khlebnikov, Prof. Dr. Ch. Schneider |
| Mechanisms of organic reactions | Prof. Dr. R.R. Kostikov, Prof. Dr. H. Heimgartner |
| Physical methods in organic chemistry | Prof. Dr. M.A. Kuznetsov, Prof. Dr. J. Sieler |
| Bioorganic and polymer chemistry | Prof. Dr. V.A. Dadali, Prof. Dr. A. Giannis |

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| Post-grad. A. Pan'kova, Post-grad. V. Pakal'nis, | <i>Saint-Petersburg State University</i> |
| Undergrad. A. Klinkova, Master M. Supurgibekov | |

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Municipality of Saint-Petersburg District N 7 – “Vasil'evsky Island”
ISC «Neva-Lab»**

22 June, Monday

10.00–10.25

Opening Ceremony

10.25–10.55 **Nikolaev V. A.** (*St.-Petersburg University*) “New Rh(II)-Catalyzed Reactions of Diazocarbonyl Compounds with Dicarboximides and Sulfonimides: Synthetic Scope and Mechanism”

11.00–11.30 **Heimgartner H.** (*Zurich University, Switzerland*) “1,5-Dipolar Electrocyclizations – New Pericyclic Reactions of Thiocarbonyl Ylides”

11.35–11.55

Coffee break

11.55–12.25 **Bolesov I. G., Baird M. S., Yakushkina N. I., Ignatchenko A. V., Tarabayeva O. G., Tverezovsky V. V., Rubin M. A., Sheshenev A. E., Solovyeva V. A.** (*Moscow University, University of Wales, Bangor*) “Chemo-, Stereo-, Enantioselective Transformations of Functionalised Cyclopropanes and Cyclopropenes”

12.30–13.00 **Sickert M., Giera D. S., Abels F., Schneider C.**, (*Leipzig University, Germany*) “Selective Vinylogous Carbon–Carbon-Bond Forming Reactions”

13.05–14.00

Lunch

Section 1 – Organic Synthesis

14.00–14.15 **Klinkova A. A., Schneider Ch., Nikolaev V. A.** (*St.-Petersburg University, Leipzig University, Germany*) “A New Approach to the Structure of Polysubstituted Dioxolanes *via* Interaction of Dicarboximide *O*-Alkylimidates with Carbonyl Compounds”

14.20–14.35 **Churruca F., Ishikawa Y., Fousteris M., Giannis A.** (*University of Leipzig, Germany*) “Towards the Total Synthesis of Terpendole *E*”

14.40–14.55 **Beletskaya I. P., Selivanova A. V., Turin V. S., Tarasenko E. A., Khotina I. A.** (*Institute of Physical Chemistry & Electrochemistry, Institute of Organoelement Compounds, Moscow*) “Recyclable Catalytic Systems Pd-polymer in the C–C Bond Formation”

15.00–15.15 **Supurgibekov M. B., Nikolaev V. A.** (*St.-Petersburg University*) “Pyrazoles or Pyridazines? Effect of Vinyl Double Bond Configuration on the Reactivity of 2-Vinyldiazoketones”

15.20–15.35 **Chemagin A. V., Yashin N. V., Averina E. B., Kuznetsova T. S.** (*Moscow University*) “Diethyl Nitrodiazomethylphosphonate: Synthesis and Reactivity Towards Olefins”

15.40–16.00

Coffee break

16.00–16.15 **Smirnov M., Elyashevich G.** (*Institute of Macromolecular Compounds, St.-Petersburg*) “Synthesis of Electroconducting Swelling Composites on the Base of Polypyrrole and Crosslinked Polyacrylic Acid”

16.20–16.35 **Vigorov A. Yu., Nizova I. A., Sadretdinova L. Sh., Levit G. L., Ganebnykh I. N., Eshikova M. A., Kodess M. I., Krasnov V. P.** (*Institute of Organic Synthesis, Ekaterinburg*) “Reduction of (2*S*,4*S*)-4-Amino-5-oxoproline Derivatives using Borane complexes”

16.40–16.55 **Taydakov I. V., Dutova T. Ya., Sidorenko E. N. and Krasnoselsky S. S.** (*Research Center for Antibiotics, Moscow*) “Iron (III) Chloride–Activated Carbon–Hydrazine Hydrate System – an Effective and Versatile Method for Reduction of Aromatic and Heterocyclic Nitrocompounds”

17.00–17.15 **Chagarovskiy A. O., Budynina E. M., Ivanova O. A., Trushkov I. V., Verteletskii P. V.** (*Moscow University*) “Reaction of Donor- Acceptor Cyclopropanes with Furan Derivatives”

17.20–17.35 **Borisov I. S., Sedenkova K. N., Averina E. B., Kuznetzova T. S., Zefirov N. S.** (*Moscow University*) “1-*tert*-Butoxy-4,4-dihalogenospiro[2.2]pentanes: Synthesis and Investigation of Reactivity Towards Methylolithium”

Section 2 – Organic reaction mechanisms

14.00–14.15 **Ostrovskii V. A., Aleshunin P. A., Pavlyukova Yu. N., Popova E. A., Trifonov R. E.** (*Technical University, St.-Petersburg*) “Synthesis and Chemical Properties of *NH*-Unsubstituted 5-Viniltetrazole”

14.20–14.35 **Sedenkova K. N., Averina E. B., Kuznetzova T. S., Zefirov N. S.** (*Moscow University*) “Substituted 1,1-Dihalogenospiropentanes: Synthesis and Reactivity Towards Alkylolithium Reagents”

- 14.40–14.55 Nizhnik Ya. P. (*Petrozavodsk University*) “Lewis Acid Effects on π -Donor/ π -Acceptor Associations and Redox Reactions”
- 15.00–15.15 Kalagaev I. U., Greenwald I. I. (*Nizhegorodsky Technical University*) “Complexes of Polar Organic Solvents with Water Molecules in the Condensed Phase”
- 15.20–15.35 Shevchenko V. V., Balli T., Nikolaev V. A. (*University of Fribourg, Switzerland, St.-Petersburg University*) “Photochemistry of Diazirines and the Relevant Diazomalonates in Solution and in Argon Matrix. A Comparison Study”
- 15.40–16.00 *Coffee break*
- 16.00–16.15 Galkina O. S., Nikolaev V. A., Rodina L. L. (*St.-Petersburg University*) “Primary and Secondary Photochemical Processes During Photolysis of Regioisomeric α,α -Diphenylsubstituted Diazotetrahydrofuranones”
- 16.20–16.35 Heretsch P., Giannis A. “Synthesis of Cycloamine using Biomimetic and Diastereoselective Approaches”
- 16.40–16.55 Kushakova A. S., Zenkevich I. G. (*St.-Petersburg University*) “New Method of Gas-Chromatographic Determination of Mutual Solubility of Registry Miscible Organic Solvents”
- 18.00 – *Meeting of the participants*

23 June, Tuesday

- 10.20–10.50 Kuznetzova T. S. (*Moscow University*) “Advance of Triangulane Chemistry”
- 10.55–11.25 Hopf H. (*Technical University of Braunschweig, Germany*) “How do Functional Groups Interact?”
- 11.30–11.50 *Coffee break*
- 11.50–12.20 Piotrovsky L. B., Litasova E. V., Dumpis M. A. (*Institute of Experimental Medicine RAMS, St.-Petersburg*) “Arginine Derivatives as New Analgesics”
- 12.25–12.55 Stark C. B. W. (*Leipzig University, Germany*) “New Catalytic Oxidative Strategies for Asymmetric Synthesis”
- 13.00–14.00 *Lunch*

Section 1 – Organic Synthesis

- 14.00–14.15 Gruzdev D. A., Levit G. L., Chulakov E. N., Sadretdinova L. Sh., Matveeva T. V., Il'ichyova E. A., Krasnov V. P. (*Institute of Organic Synthesis, Ekaterinburg*) “Acylative Kinetic Resolution of Racemic Heterocyclic Amines using Amino Acids Derivatives”
- 14.20–14.35 Shklyaruck D. G., Kulinkovich O. G. (*Belarusian University, Belarus*) “Cyclopropanol's Approach to the Synthesis of Fragment A of Criptophicins Molecules”
- 14.40–14.55 Zhurko I. F. (*Institute of Organic Chemistry, Novosibirsk*) “Organometallic Compounds in the Synthesis of Sterically Hindered Nitroxides”
- 15.00–15.15 Ovcharov M. V., Varlamov A. V., Voskresensky L. G., Kasatochkina A. S. (*Russian Peoples' Friendship University, Moscow*) “4-Aminosubstituted pyrimido[4,5-d]azocines”
- 15.20–15.35 Golovanov A. A., Pisareva V. S., Pleshchev M. I. (*Togliatti University*) “Intermolecular Dehydration of *tert*-Butanol with Alcohols C₂–C₅ Catalyzed by Ion Exchange Resins”

Section 3 – Bioorganic and polymer chemistry

- 14.00–14.15 Chentsova A. S., Morozkina S. N., Selivanov S. I., Putilina F. E., Zakharova L. I., Shavva A. G. (*St.-Petersburg University*) “New Approach to the Synthesis of 7 β -Methyl-D-homo-6-oxa-8 α -estrone”
- 14.20–14.35 von Wantoch M. R., Giannis A. (*Leipzig University, Germany*) “A New Approach to C-Nor-D-homo Steroids”
- 14.40–14.55 Popova T. V., Chubarov A. S., Lisitsky V. A., Kudryashova N. V., Gerasimova Yu. V., Knorre D. G., Godovikova T. S. (*Institute of Chemical Biology and Fundamental Medicine, Novosibirsk*) “Synthesis of the Amino Acid Based Bifunctional Reagents for Nuclear-Protein Complexes Investigation”
- 15.00–15.15 Sanzhieva E. V., Radnaeva L. D. (*Baikal Institute for Nature Management, Ulan-Ude*) “Synthesis of Polyaminobisimides by Polyaddition Method”

- 15.40–17.00 *Poster sessions – Section 1*

24 June, Wednesday

- 10.20–10.50 **Hennig L., Teichert J., Klemm M.** (*Leipzig University, Germany*) “NMR structural Elucidation of Medicinal and Pharmacological Important Compounds”
- 10.55–11.25 **Nikiforov V. A.** (*St.-Petersburg University*) “Correlation of Chemical Reactivity and Environmental Persistence: Selection Criteria for Ecomodel Reactions and Use of Hammett Equation for Calculation of Environmental Lifetimes”
- 11.30–11.50 *Coffee break*
- 11.50–12.20 **Дадали В. А.** (*St.-Petersburg Medical Academy*) “Molecular Complexes of Components Redox-System «Ubiquinone–Phlavanoid» with Oligo- and Polymeric Particles”
- 12.25–12.55 **Kofanov E. R.** (*Yaroslavl University*) “Some Synthetic Resources and Theoretical Pattern of Aromatic Nitriles Transformation to Heterocyclic Compounds”
- 13.00–14.00 *Lunch*

Section 1 – Organic Synthesis

- 14.00–14.15 **Kulikova L. N., Kleymenov A. V., Guranova N. I.** (*Russian Peoples' Friendship University, Moscow*) “The Transformations of Substituted Isoindoles by the Action of Activated Alkynes”
- 14.20–14.35 **Danilkina N. A., Selivanov S. I., Mikhailov L. E., Ivin B. A.** (*St.-Petersburg University, Academy of Chemistry and Pharmacy*) “Application of ^1H and ^{15}N NMR Spectroscopy for Structure Elucidation of 1,3-Thiazine Derivatives”
- 14.40–14.55 **Ivleva E. S., Zenkevich I. G.** (*St.-Petersburg University*) “General Pattern of Correlation between Retention Indices and a Ratio of Reference and Target Components”
- 15.00–15.15 **Bazhov I. V.** (*Institute of Organic Synthesis, Ekaterinburg*) “Synthesis of 3-Amino-ortho-carborane Derivatives with Amino acids”

Section 4 – Physical methods in organic chemistry

- 14.00–14.15 **Polevaya J. A., Ziminov A. V., Yurre T. A., Ramsh S. M., Spiridonov I. G.** (*Technical University, St. Petersburg*) “Synthesis and Study of Spectral Properties of Europium(III) Phthalocyanine”
- 14.20–14.35 **Khamaletdinova N. M., Kuznetsova O. V.** (*Institute of Organometallic Chemistry, Nizhny Novgorod*) “X-Ray Photoelectron Spectroscopy and Substituent Effects in Radical Cations”
- 14.40–14.55 **Lysova S. S., Zevatsky Yu. E.** (*Technical University, St. Petersburg*) “Element Linear Empirical Method of Calculation of Ionization Constants of Organic Compounds in Water Solutions on Molecular Volumes”
- 15.00–15.15 **Ukolov A. I., Eliseenkov E. V., Kasatochkin A. N., Zenkevich I. G.** (*St.-Petersburg University*) “Identification of Cyclohexane Chlorination Products in Reaction Mixtures using Retention Indices Evaluated by Method of «Structural Assembly»”
- 15.20–15.35 **Kim A. F., Grushko Yu. S., Lebedev V. T., Orlova D. N., Kozlov V. S., Sedov V. P., Kolesnik S. G., Shamanin V. V., Melenevskaya E. Yu.** (*Petersburg Nuclear Physics Institute, Institute of Macromolecular Compounds*) “Synthesis of Hydroxylated Endohedral Fullerene and Their Self-assembly in Aqueous Solutions”
- 15.40–17.00 *Poster sessions – Sections 2–4*

25 June, Thursday

- 10.00–10.25 **Kuznetsov M. A.** (*St.-Petersburg University*) “Thermolysis of *N*-Phthalimidoaziridines in Presence of Dipolarophiles. Spatial Structure of Products and Reaction Mechanism”
- 10.30–10.50 **Vinogradova L. V.** (*Institute of Macromolecular Compounds, St.-Petersburg*) “Organolithium Polymer Derivatives of Fullerene C_{60} in the Precise Synthesis of Regular Heteroarm Star-shaped Structures”
- 10.55–11.25 **Bärbel S., Rodina L.** (*Leipzig University & St.-Petersburg Universities*) “40 Years of Joint Scientific Cooperation in Organic Chemistry”
- 11.30 *Closing Ceremony*

Outline of the Conference Schedule

| <i>Date</i> | <i>Time</i> | <i>Content</i> |
|----------------------------|-------------|------------------------------------|
| <i>June 22, Monday</i> | 10.00–10.25 | <i>Opening Ceremony</i> |
| | 10.25–11.35 | Lectures 0-01, 0-02 |
| | 11.35–11.55 | <i>Coffee break</i> |
| | 11.55–13.05 | Lectures 0-03, 0-04 |
| | 13.05–14.00 | <i>Lunch</i> |
| | 14.00–15.40 | Section 1, reports 1-01–1-05 |
| | 14.00–15.40 | Section 2, reports 2-01–2-05 |
| | 15.40–16.00 | <i>Coffee break</i> |
| | 16.00–17.40 | Section 1, reports 1-06–1-10 |
| | 16.00–17.00 | Section 2, reports 2-06–2-08 |
| | 18.00 | <i>Meeting of the participants</i> |

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| <i>June 23, Tuesday</i> | 10.20–11.30 | Lectures 0-05, 0-06 |
| | 11.30–11.50 | <i>Coffee break</i> |
| | 11.50–13.00 | Lectures 0-07, 0-08 |
| | 13.00–14.00 | <i>Lunch</i> |
| | 14.00–15.40 | Section 1, reports 1-11–1-15 |
| | 14.00–15.20 | Section 3, reports 3-01–3-04 |
| | 15.40–17.00 | Poster session, Section 1 |

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| <i>June 24, Wednesday</i> | 10.20–11.30 | Lectures 0-09, 0-10 |
| | 11.30–11.50 | <i>Coffee break</i> |
| | 11.50–13.00 | Lectures 0-11, 0-12 |
| | 13.00–14.00 | <i>Lunch</i> |
| | 14.00–15.20 | Section 1, reports 1-16–1-19, |
| | 14.00–15.40 | Section 4, reports 4-01–4-05 |
| | 15.40–17.00 | Poster sessions, Sections 2–4 |

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| <i>June 25, Thursday</i> | 10.00–11.30 | Lectures 0-13–0-15 |
| | 11.30 | <i>Closing Ceremony</i> |