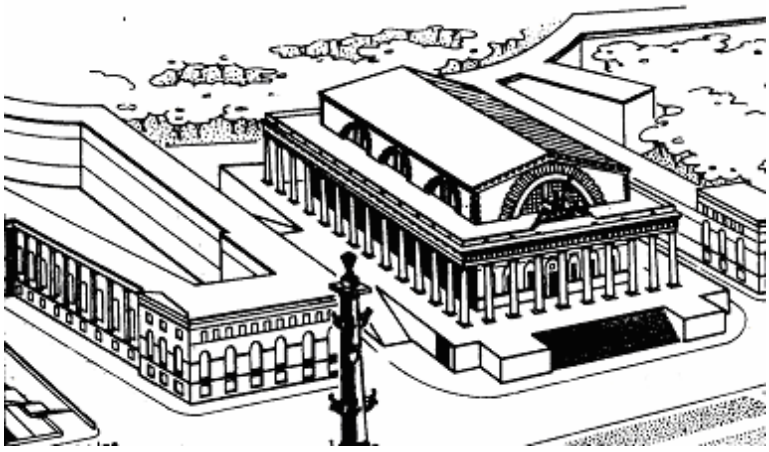
FEDERAL AGENCY FOR SCIENTIFIC ORGANIZATIONS

RUSSIAN ACADEMY OF SCIENCES
DEPARTMENT OF CHEMISTRY AND MATERIAL SCIENCES

INSTITUTE OF MACROMOLECULAR COMPOUNDS
OF THE RUSSIAN ACADEMY OF SCIENCES



«MODERN PROBLEMS OF POLYMER SCIENCE»

13th International Saint Petersburg Conference of Young Scientists

November 13 – 16, 2017
Saint Petersburg

Institute of Macromolecular Compounds of the Russian Academy of Sciences is honored to invite you to participate in the 13th International Saint Petersburg Conference of Young Scientists "Modern Problems of Polymer Science".

The Conference is supported by the Ministry of Science and Education of Russian Federation through the megagrant (State Contract 14.W03.31.0014).

Young scientists (under 35 years old), PhD students, master students, and graduate students are invited for **participation** in the Conference as main speakers. 200 persons are expected to attend the Conference. More than 80 oral presentations (for 15 minutes) and about 100 posters are planned for scientific conference program.

Conference will be held from 13 to 16 November, 2017.

Language
English is the official language of Conference.

Conference venue
The 13th International Saint Petersburg Conference of Young Scientists "Modern Problems of Polymer Science" will take place in Saint Petersburg from November 13 to 16, 2017 in the Conference Hall of Institute of Macromolecular Compounds of the Russian Academy of Sciences.

Institute of Macromolecular Compounds of the Russian Academy of Sciences is located on Vasilevsky ostrov (Vasilevsky Island) in the central part of Saint Petersburg, in 20 min walking from historical center of city. The nearest Metro station is "Vasileostrovskaya" (7 min walking).

Address: Institute of Macromolecular Compounds of Russian Academy of Sciences
Bolshoi Prospect, 31
Saint Petersburg, 199004, Russia

Scientific program
Conference will cover major frontier topics in modern polymer chemistry and physics. Conference **sessions** will cover topics such as:

Session 1. Polymer synthesis and modification
radical polymerization; ionic polymerization; polycondensation; catalytic polymerization; copolymerization; modification of macromolecules

Session 2. Physico-chemical properties of polymers
molecular characteristics; rheological properties; mechanical properties; optical properties; polymers solutions and melts; crystalline and glassy polymers

Session 3. Polymer composite materials
thermoplastic polymer composite materials; nucleation, crystallization and melting; mechanical and thermal properties; multiscale modeling of polymer composites

Session 4. Bio-related and medical polymers
biomacromolecules; biomimetic polymers; bio-hybrid polymers; biomolecular recognition; polymers for medical uses; drug delivery systems; polymer biocomposite materials

Session 5. Smart polymers
synthesis of smart polymers; structure and physico-chemical properties of smart polymers; applications of smart polymers

Session 6. Polymer applications
polymer materials for microelectronics, optics, and optoelectronics; polymer applications and ecology; polymer processing and utilization

Organizing Committee has invited the leading scientists in polymer science to present **plenary lectures** (45 min).

Prof. Vadim Annenkov (Russia)
Bioinspired polymeric amines and ampholytes

Prof. Yuriy Skorik (Russia)
Chitosan and chitosan derivatives for biomedical applications

Prof. Nail Fatkullin (Russia)
NMR proton spin relaxation and dynamics of polymer systems

Prof. Vitaliy Khutoryanskiy (United Kingdom)
Preparation of papers for publication in high impact journals

Prof. Mikko Karttunen (Canada)
(to be announced)

Registration and abstract submission
Registration and abstract submission are available on-line at the Conference website **http://young.macro.ru/** .

Abstracts will be accepted starting from April 19, 2017. The deadline for abstract submission is June 21, 2017.

Registration fee

Registration fee is €40 (after November 13, 2017 Registration fee is €50). The payment should be made in Russian Rubles, USA dollars or Euros using one of the following ways: Credit card payment, payment by Bank transfer or Internet payment. The payment can be done after on-line registration at the Conference website **http://young.macro.ru/** from participant's Personal area or on-site.

Letters of invitation

The invitation for attending the Meeting will be sent by the Organizing Committee. Such an invitation is only to help participants to raise their travel funds and is not the organizers' commitment to provide any financial support.

Visa

Many foreign citizens need visa in order to enter Russia.
You may use the two ways to get a visa:
1. **Tourist visa**: the Conference Service Agency Monomax PCO can provide you with tourist visa support document (voucher and confirmation). For a request please register on-line and make your request at the Personal area. Please note that a participant must have a confirmed hotel reservation for visa support. The deadline for the tourist visa support request is **October 13, 2017.**

2. **Humanitarian visa**: Organizing Committee provides visa support of the Russian Ministry of Foreign Affairs upon receiving completed Registration Forms and international passport (passport for travel abroad) copy. It is the Russian Ministry of Foreign Affairs who issues the official letter of invitation which is used for obtaining visa.
The citizens of Schengen states may get a special invitation letter for visa to Russia (this invitation letter will be prepared by Organizing Committee and Director of Institute of Macromolecular Compounds of Russian Academy of Sciences).
Conference participants should send a copy of their passports' first page to the Organizing Committee by e-mail
polymer-young@onlinereg.ru

Insurance

The Organizing Committee recommends all participants to have travel insurance, which will cover any incidents that may happen during the meeting. The organizers do not accept responsibility for individual medical, travel or personal insurance.

Hotel reservation
Monomax Service Agency is delighted to offer the hotel accommodation for the Conference participants on special prices. Information will be available soon at the Conference website **http://young.macro.ru/**. Reservation will be available at participants' Personal areas.

Important Dates

April 19, 2017	Registration and abstract submission opening
June **21,** 2017	Deadline for registration and abstract submission
October 13, 2017	Deadline for sending request for hotel accommodation
November 13, 2017	Opening of the Conference Registration Desk
November 13, 2017	Opening Ceremony
November 16, 2017	Closing Ceremony

International Scientific Advisory Board

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Conference Organizing Committee Address

Institute of Macromolecular Compounds of the Russian Academy of Sciences
Bolshoi pr., 31
Saint Petersburg
199004, Russia

e-mail: **polymer-young@mail.macro.ru**

Official Conference Service Agency

Monomax PCO

Contact person

Mrs. Natalia Aseeva, Head of the project
Tel.: +7 (812) 335-2055 ext.130
Fax: +7 (812) 335-2039

e-mail: **polymer-young@onlinereg.ru**

The details of the Conference are to be found on the Web site of the Institute of Macromolecular Compounds of the Russian Academy of Sciences http://www.macro.ru or on the Conference Web site http://young.macro.ru/.

GUIDELINES FOR ABSTRACT PREPARATION

Abstracts should be submitted via participant's Personal area after registration at the Conference web site **http://young.macro.ru/**. Abstracts should be prepared in Reach Text Format (RTF) for MS Word **and written in English**.

File size should not exceed 2 Mb.

Page layout:

Page orientation:	Portrait
Margins	Left, right, and top margin – 2 cm
	Bottom margin – 17.0 cm
	(the printable field for text of abstract is 17 cm × 10.7 cm)
Font	Times New Roman 9 pt
Line spacing	single

It is possible to include figures and tables compatible with RTF-format in the abstract text.

References

In order to save the space, references can be put in a single paragraph. In this case references should be separated by period. Please avoid using automatic numeration of references.

Please keep the following rules:

Books: *Authors N.N. (italic)* Book title. City, publisher, year.

Papers: *Authors N.N. (italic)* Source title. **Volume (bold)**, page, (year, in parentheses).

Conference abstracts: *Authors N.N. (italic)* Conference title. Conference venue (year, in parentheses). **Volume (bold)**, page.

Please use the standard Chemical Abstracts Source Service Index terminology followed by VOLUME, PAGE, YEAR.

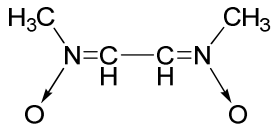
EXAMPLE OF ABSTRACT PREPARATION

N-SUBSTITUTED DINITRONES IN POLYMERIZATION OF STYRENE

Alieva A.B., Kolyakina E.V., Sazonova E.V., Grishin D.F.
Lobachevsky State University of Nizhny Novgorod, Nizhny Novgorod, Russia
kelena@ichem.unn.ru

Synthetic polymeric materials are widely used in different applications in our life. The development of controlled radical polymerization (CRP) techniques including nitroxide-mediated polymerization (NMP) allows to synthesize tailor-made materials with promising new applications. The recent progress in NMP is based on the direct transformation of nitrones to nitroxides and alkoxyamines in the polymerization medium. The tendency of nitrones to react with radicals has been widely used in new synthetic routes to well-defined polymers with definite molecular weight [1, 2].

The ability of several dinitrones (Scheme) to control radical polymerization of styrene (St) at 70-110 °C has been investigated.



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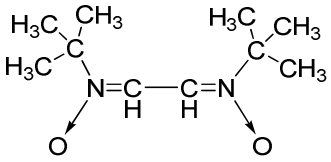

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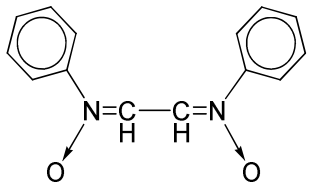

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The dinitrone/free radical initiator pair dictates the structure of the nitroxide and the alkoxyamine formed *in situ*. The effect of the dinitrone structure and their concentration on the kinetics of the styrene polymerization has been studied. Each of the investigated dinitrones reduces the rate polymerization of St at 70-110C. Obtained polystyrene is characterized by the linear dependence of molecular weight on conversion. Among all the dinitrones tested, the N,N–di-*tert*-butylglyoxaldinitrone (**2**) type is the most efficient in terms of polymerization rate, control of molecular weight and polydispersity. In this case the polydispersity index of polystyrene samples is 1.22-1.58. Importantly, the polymerization rate is not governed by the thermal polymerization of styrene but by the alkoxyamine formed *in situ*.

References:

[1] *Kolyakina E.V., Grishin D.F.* Russian Chemical Reviews. **78**, 535-568, (2009).
[2] *Sciannamea V., Jérôme R., Detrembleur C.* Chem. Rev. **108**, 1104-1126, (2008).

Acknowledgements

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