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Адрес

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Контакты

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Образование

1989	Россия, Москва	НПО "ВИЛР" Министерства медицинской и микробиологической промышленности СССР	присуждена ученая степень доктора химических наук за диссертацию "Структурно-функциональные исследования полимиксина В, фосфолипазы А2 и апамина"
1981	Россия, Москва	Московский институт тонкой химической технологии им. М.В. Ломоносова (МИТХТ), ф-т тонкой химической технологии	Присуждено учёное звание доцента кафедры химии и технологии тонких органических соединений
1968	Россия, Москва	Институт химии природных соединений АН СССР (ИХПС)	Присуждена учёная степень кандидата наук за диссертацию: "Масс-спектрометрическое определение аминокислотной последовательности в пептидах, содержащих остатки моноаминодикарбоновых кислот и их ω-амидов"
1957– 1963	Россия, Москва	Московский институт тонкой химической технологии им. М.В. Ломоносова (МИТХТ), ф-т тонкой химической технологии	диплом химика

Работа в ИБХ

2018–2022	Научный руководитель
2020–2022	Заведующий отделом
2022–2022	Руководитель

Членство в советах и комиссиях ИБХ

	Диссертационный совет
	Ученый совет
	Аттестационная комиссия
2022–наст.вр.	Методическая комиссия

Награды

1999	Медаль Ордена «За заслуги перед Отечеством» II степени	
2012	Орден Почёта	
2005	Орден Дружбы	
1975	Медаль «За трудовую доблесть»	1975 и 1981 гг.
1996	Премии Правительства РФ в области науки и техники	1996 - За разработку и создание биотехнологического производства ликопида нового иммунокорректирующего лекарственного препарата, 2005 - За создание производства и внедрение в практику отечественного здравоохранения генно-инженерного инсулина человека
2024	Орден Александра Невского	За большой вклад в развитие отечественной науки, многолетнюю плодотворную деятельность и в связи с 300-летием со дня основания Российской академии наук.

Членство в сообществах

1987—наст. вр.: Член редколлегии журнала "Биотехнология";

1991—1998: член редколлегии "Химико-фармацевтического журнала";

1994: Член-корреспондент Российской академии наук;

1996—наст. вр.: вице-президент Российского общества биохимиков и молекулярных биологов;

1996—наст. вр.: заметитель председателя Национального комитета биохимиков и молекулярных биологов;

1998—наст. вр.: член редколлегии журнала "Вопросы биологической, медицинской и фармацевтической химии";

2000: действительный член Российской академии наук;

2003—наст. вр.: заместитель преседателя Научного совета РАН по научному приборостроению;

2003—наст. вр.: вице-президент Общероссийской общественной организации ["Общество биотехнологов России имени академика Ю.А. Овчинникова"](#);

2004—наст. вр.: член Координационного совета РАН по инновационной деятельности;

2005—наст. вр.: председатель Президиума [Пушкинского научного центра РАН](#);

2008—наст. вр.: член Президиума РАН.

Степени и звания

Академик

Доктор наук (Химические науки)

Публикации

1. Kayushin AL, Antonov KV, Dorofeeva EV, Berzina MY, Arnautova AO, Prohorenko IA, **Miroshnikov AI**, Konstantinova ID (2024). A New Approach to the Synthesis of Anti-Reverse Cap Analog (ARCA) 2mGpppG. *Russ. J. Bioorganic Chem.* 50 (1), 1–7, [10.1134/S106816202402033X](https://doi.org/10.1134/S106816202402033X)
2. Azev VN, Baidakova LK, Chulin AN, Tuzikov AB, Kisliitsyn PG, Molchanov MV, **Miroshnikov AI** (2023). Regiospecific Preparation of a Suitably Protected β -Branched Aspartic Acid Dipeptide. *Russ. J. Bioorganic Chem.* 49 (4), 775–784, [10.1134/S1068162023040052](https://doi.org/10.1134/S1068162023040052)
3. Berzina MY, Eletskaia BZ, Kayushin AL, Dorofeeva EV, Lutonina OI, Fateev IV, Zhavoronkova ON, Bashorin AR, Arnautova AO, Smirnova OS, Antonov KV, Paramonov AS, Dubinnyi MA, Esipov RS, **Miroshnikov AI**, Konstantinova ID (2023). Intramolecular Hydrogen Bonding in N6-Substituted 2-Chloroadenosines: Evidence from NMR Spectroscopy. *Int J Mol Sci* 24 (11), 9697, [10.3390/ijms24119697](https://doi.org/10.3390/ijms24119697)
4. Azev VN, Chulin AN, Molchanov MV, **Miroshnikov AI** (2023). Convenient Preparation of t-Butyl α -Protected Amino Acid Esters from t-Butanol. *Russ. J. Bioorganic Chem.* 49 (3), 524–528, [10.1134/S1068162023030056](https://doi.org/10.1134/S1068162023030056)
5. Eletskaia BZ, Berzina MY, Fateev IV, Kayushin AL, Dorofeeva EV, Lutonina OI, Zorina EA, Antonov KV, Paramonov AS, Muzyka IS, Zhukova OS, Kiselevskiy MV, **Miroshnikov AI**, Esipov RS, Konstantinova ID (2023). Enzymatic Synthesis of 2-Chloropurine Arabinonucleosides with Chiral Amino Acid Amides at the C6 Position and an Evaluation of Antiproliferative Activity In Vitro. *Int J Mol Sci* 24 (7), 6223, [10.3390/ijms24076223](https://doi.org/10.3390/ijms24076223)
6. Likhvantseva VG, Gevorgyan AS, Kapkova SG, Kuzmin KA, **Miroshnikov AI**, Esipov RS (2022). Development of criteria for a comprehensive assessment of the effectiveness of antiangiogenic drugs on models of neovascularization of the eye (experimental studies). *Glaz* 24 (3), 39–47, [10.33791/2222-4408-2022-3-39-47](https://doi.org/10.33791/2222-4408-2022-3-39-47)
7. Smirnova OS, Berzina MY, Fateev IV, Eletskaia BZ, Kostromina MA, Kayushin AL, Paramonov AS, Prutkov AN, Grebenkina LE, Chudinov MV, Andronova VL, Galegov GA, Deryabin PG, **Miroshnikov AI**, Esipov RS, Konstantinova ID (2022). Chemo-enzymatic synthesis of 5-substituted ribavirin analogs: Unexpected cooperative effect in the interaction of 5-alkyloxymethyl 1,2,4-triazol-3-carboxamides with E. coli purine nucleoside phosphorylase active site. *Sustainable Chemistry and Pharmacy* 30, 100881, [10.1016/j.scp.2022.100881](https://doi.org/10.1016/j.scp.2022.100881)
8. Berzina MY, Eletskaia BZ, Kayushin AL, Dorofeeva EV, Lutonina OI, Fateev IV, Paramonov AS, Kostromina MA, Zayats EA, Abramchik YA, Maltsev DV, Naumenko LV, Taran AS, Yakovlev DS, Spasov AA, **Miroshnikov AI**, Esipov RS, Konstantinova ID (2022). Synthesis of 2-chloropurine ribosides with chiral amino acid amides at C6 and their evaluation as A1 adenosine receptor agonists. *Bioorg Chem* 126, 105878, [10.1016/j.bioorg.2022.105878](https://doi.org/10.1016/j.bioorg.2022.105878)
9. Kayushin AL, Tokunova JA, Fateev IV, Arnautova AO, Berzina MY, Paramonov AS, Lutonina OI, Dorofeeva EV, Antonov KV, Esipov RS, Mikhailopulo IA, **Miroshnikov AI**, Konstantinova ID (2021). Radical dehalogenation and purine nucleoside phosphorylase e. Coli: How does an admixture of 2',3'-anhydroinosine hinder 2-fluoro-cordycepin synthesis. *Biomolecules* 11 (4), , [10.3390/biom11040539](https://doi.org/10.3390/biom11040539)
10. Artsemyeva JN, Remeeva EA, Buravskaya TN, Konstantinova ID, Esipov RS, **Miroshnikov AI**, Litvinko NM, Mikhailopulo IA (2020). Anion exchange resins in phosphate form as versatile carriers for the reactions catalyzed by nucleoside phosphorylases. *Beilstein J Org Chem* 16, 2607–2622, [10.3762/bjoc.16.212](https://doi.org/10.3762/bjoc.16.212)
11. (книга) Konstantinova ID, Kayushin AL, Arnautova AO, Antonov KV, Yeletskaia BZ, Berzina MY, Dorofeeva EV, Lutonina OI, Fateev IV, Esipov RS, **Miroshnikov AI** (2020). Convenient Approach to the Biosynthesis of C2,C6-Disubstituted Purine Nucleosides Using E. coli Purine Nucleoside Phosphorylase and Arsenolysis. *Wiley-VCH, John Whittall (Editor), Peter W. Sutton (Editor)* , 211–215.
12. Eletskaia BZ, Gruzdev DA, Krasnov VP, Levit GL, Kostromina MA, Paramonov AS, Kayushin AL, Muzyka IS, Muravyova TI, Esipov RS, Andronova VL, Galegov GA, Charushin VN, **Miroshnikov AI**, Konstantinova ID (2019). Enzymatic Synthesis of Novel Purine Nucleosides Bearing a Chiral Benzoxazine Fragment. *Chem Biol Drug Des* 93 (4), 605–616, [10.1111/cbdd.13458](https://doi.org/10.1111/cbdd.13458)
13. Esipov RS, Timofeev VI, Sinitsyna EV, Tuzova ES, Esipova LV, Kostromina MA, Kuranova IP, **Miroshnikov AI** (2018). Three-Dimensional Structure of Recombinant Adenine Phosphoribosyltransferase from Thermophilic Bacterial Strain *Thermus thermophilus* HB27. *Russ. J. Bioorganic Chem.* 44 (5), 504–510, [10.1134/S1068162018050047](https://doi.org/10.1134/S1068162018050047)
14. (конференция) Esipov RS, Timofeev VI, Kuranova IP, Kostromina MA, Tuzova ES, Abramchik YA, Esipova

- LV, Sinitsyna EV, Fateev IV, Muravieva TI, **Miroshnikov AI** (2018). A new approach for the synthesis of biologically important nucleotides using a thermostable multi-enzymatic cascade. *J Bioenerg Biomembr* 50 (6), 467–603, [10.1007/s10863-018-9775-7](https://doi.org/10.1007/s10863-018-9775-7)
15. Esipov RS, Stepanenko VN, Zvereva IO, Makarov DA, Kostromina MA, Kostromina TI, Muravyova TI, **Miroshnikov AI**, Grishin EV (2018). Erratum to: Biotechnological Method for Production of Recombinant Peptide Analgesic (Purotoxin-1) from *Geolycosa* sp. Spider Poison (Russian Journal of Bioorganic Chemistry, (2018), 44, 1, (32-40), 10.1134/S1068162018010065). *Russ. J. Bioorganic Chem.* 44 (4), 472, [10.1134/S1068162018040064](https://doi.org/10.1134/S1068162018040064)
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17. Kharitonova MI, Konstantinova ID, **Miroshnikov AI** (2018). Benzimidazole nucleosides: Antiviral and antitumour activities and methods of synthesis. *RUSS CHEM REV* 87 (11), 1111–1138, [10.1070/RCR4832](https://doi.org/10.1070/RCR4832)
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20. Kharitonova MI, Antonov KV, Fateev IV, Berzina MY, Kaushin AL, Paramonov AS, Kotovskaya SK, Andronova VL, Konstantinova ID, Galegov GA, Charushin VN, **Miroshnikov AI** (2017). Chemoenzymatic Synthesis of Modified 2'-Deoxy-2'-fluoro- β -D-arabinofuranosyl Benzimidazoles and Evaluation of Their Activity Against Herpes Simplex Virus Type 1. *Synthesis (Stuttg)* 49 (5), 1043–1052, [10.1055/s-0036-1588625](https://doi.org/10.1055/s-0036-1588625)
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22. Stepchenko VA, **Miroshnikov AI**, Seela F, Mikhailopulo IA (2016). Enzymatic synthesis and phosphorolysis of 4(2)-thio- and 6(5)-azapyrimidine nucleosides by *E. coli* nucleoside phosphorylases. *Beilstein J Org Chem* 12, 2588–2601, [10.3762/bjoc.12.254](https://doi.org/10.3762/bjoc.12.254)
23. Romanov VP, Kostromina TI, **Miroshnikov AI**, Feofanov SA (2016). Preparative method for obtaining recombinant human interferon α 2b from inclusion bodies of *Escherichia coli*. *Russ. J. Bioorganic Chem.* 42 (6), 631–637, [10.1134/S1068162016040154](https://doi.org/10.1134/S1068162016040154)
24. Esipov RS, Abramchik YA, Fateev IV, Muravyova TI, Artemova KG, Konstantinova ID, Kuranova IP, **Miroshnikov AI** (2016). Recombinant phosphoribosyl pyrophosphate synthetases from *Thermus thermophilus* HB27: Isolation and properties. *Russ. J. Bioorganic Chem.* 42 (5), 512–521, [10.1134/S1068162016040075](https://doi.org/10.1134/S1068162016040075)
25. Lebedev VG, Faskhiev VN, Kovalenko NP, Shestibratov KA, **Miroshnikov AI** (2016). Testing transgenic aspen plants with bar gene for herbicide resistance under semi-natural conditions. *Acta Naturae* 8 (2), 92–106, [10.32607/20758251-2016-8-2-92-101](https://doi.org/10.32607/20758251-2016-8-2-92-101)
26. Konstantinova ID, Fateev IV, **Miroshnikov AI** (2016). The arsenolysis reaction in the biotechnological method of synthesis of modified purine β -D-arabinonucleosides. *Russ. J. Bioorganic Chem.* 42 (4), 372–380, [10.1134/S1068162016040105](https://doi.org/10.1134/S1068162016040105)
27. Esipov RS, Makarov DA, Stepanenko VN, **Miroshnikov AI** (2016). Development of the intein-mediated method for production of recombinant thymosin β 4 from the acetylated in vivo fusion protein. *J Biotechnol* 228, 73–81, [10.1016/j.jbiotec.2016.02.021](https://doi.org/10.1016/j.jbiotec.2016.02.021)
28. Esipov RS, Abramchik YA, Fateev IV, Konstantinova ID, Kostromina MA, Muravyova TI, Artemova KG, **Miroshnikov AI** (2016). A Cascade of Thermophilic Enzymes As an Approach to the Synthesis of Modified Nucleotides. *Acta Naturae* 8 (4), 82–90, [10.32607/20758251-2016-8-4-82-90](https://doi.org/10.32607/20758251-2016-8-4-82-90)

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30. Kharitonova MI, Fateev IV, Kayushin AL, Konstantinova ID, Kotovskaya SK, Andronova VL, Galegov GA, Charushin VN, **Miroshnikov AI** (2016). Chemoenzymatic Synthesis and Antiherpes Activity of 5-Substituted 4,6-Difluorobenzimidazoles Ribo- and 2'-Deoxyribonucleosides. *Synthesis (Stuttg)* 48 (3), 394–406, [10.1055/s-0035-1560911](https://doi.org/10.1055/s-0035-1560911)
31. Esipov RS, Abramchik YA, Fateev IV, Muravyova TI, Skoblov YS, Kostromina MA, **Miroshnikov AI** (2016). Preparation and study of the substrate specificity of thermophilic ribokinase from *Thermus* sp. 2.9. *Russian Journal of Biopharmaceuticals* 8 (2), 3–12.
32. Fateev IV, Kharitonova MI, Antonov KV, Konstantinova ID, Stepanenko VN, Esipov RS, Seela F, Temburnikar KW, Seley-Radtke KL, Stepchenko VA, Sokolov YA, **Miroshnikov AI**, Mikhailopulo IA (2015). Recognition of Artificial Nucleobases by *E. coli* Purine Nucleoside Phosphorylase versus its Ser90Ala Mutant in the Synthesis of Base-Modified Nucleosides. *Chemistry* 21 (38), 13401–13419, [10.1002/chem.201501334](https://doi.org/10.1002/chem.201501334)
33. Fateev IV, Antonov KV, Konstantinova ID, Muravyova TI, Seela F, Esipov RS, **Miroshnikov AI**, Mikhailopulo IA (2014). The chemoenzymatic synthesis of clofarabine and related 2'-deoxyfluoroarabinosyl nucleosides: The electronic and stereochemical factors determining substrate recognition by *E. coli* nucleoside phosphorylases. *Beilstein J Org Chem* 10, 1657–1669, [10.3762/bjoc.10.173](https://doi.org/10.3762/bjoc.10.173)
34. Zeifman AA, Novikov FN, Stroylov VS, Stroganov OV, Chilov GG, Skoblov AY, **Miroshnikov AI**, Skoblov YS (2014). 2,3-Dihydroxy-quinoxaline induces ATPase activity of Herpes Simplex Virus thymidine kinase. *FEBS Lett* 588 (3), 509–511, [10.1016/j.febslet.2013.12.017](https://doi.org/10.1016/j.febslet.2013.12.017)
35. Deryabin PG, Galegov GA, Konstantinova ID, Muzyka IS, **Miroshnikov AI**, Lvov DK (2014). The combination of ribavirin and ozeltamivir effectively inhibits reproduction of influenza A virus resistant to rimantadine (Amantadine) in vitro and in vivo. *Dokl Biochem Biophys* 455 (1), 80–83, [10.1134/S1607672914020100](https://doi.org/10.1134/S1607672914020100)
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39. Konstantinova ID, Selezneva OM, Fateev IV, Balashova TA, Kotovskaya SK, Baskakova ZM, Charushin VN, Baranovsky AV, **Miroshnikov AI**, Balzarini J, Mikhailopulo IA (2013). Chemo-enzymatic synthesis and biological evaluation of 5,6-disubstituted benzimidazole ribo- and 2'-deoxyribonucleosides. *Synthesis (Stuttg)* 45 (2), 272–280, [10.1055/s-0032-1317782](https://doi.org/10.1055/s-0032-1317782)
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43. Esipov RS, Stepanenko VN, Chupova LA, **Miroshnikov AI** (2012). Production of recombinant oxytocin through sulfitolysis of inteincontaining fusion protein. *Protein Pept Lett* 19 (5), 479–484, [10.2174/092986612800190973](https://doi.org/10.2174/092986612800190973)

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