Curriculum vitae: Barbara Eletskaya



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Education

2018–2014	Russia, Moscow	Russian University of Technology (MIREA).	Postgraduate program in the field of 04.06.01 "Chemical Sciences", profile 02.00.10 "Bioorganic Chemistry". Postgraduate diploma on the topic "Synthesis and Study of the Properties of Modified Nucleosides Containing Chiral Substituents at the C6 Position of Purine". Qualification awarded: "Researcher. Teacher is a Researcher".
2014–2013	Россия, Москва	Lomonosov Moscow State University of Fine Chemical Technologies (MITHT).	The master's degree program in the field of training 240700 "Biotechnology". Master's degree on the topic: “Obtaining structural analogues of the antitumor drug Nelarabine containing residues of chiral amino acids in the C6 position”The qualification was awarded: "Master".
2012–2008	Россия, Москва	Lomonosov Moscow State University of Fine Chemical Technologies (MITHT).	Bachelor's degree program in the field of Chemical Technology and Biotechnology.Bachelor's degree on the topic: “Synthesis of structural analogues of the antitumor drug Nelarabine using nucleic metabolism enzymes”Qualification awarded: "Bachelor of Engineering and Technology".

IBCh positions

2024–to date	Research fellow	
2020–2024	Junior research fellow	
2019–2023	Engineer	

Language Proficiency

Russian, English

Titles

2023	Doctor of Philosophy (Chemistry)

Grants and projects

2025–to date	-Дизайн, синтез и исследование модифицированных нуклеозидов: разработка агонистов аденозиновых рецепторов

Publications

1. Mironov AF, **Eletskaya BZ**, Antonov KV, Paramonov AS, Esipov RS, Konstantinova ID, Andreevskaya SN, Smirnova TG, Karpenko IL, Sokhraneva VA, Zhivotova IS, Kochetkov SN, Khandazhinskaya AL, Matyugina ES (2026). Exploring Novel Indazole and Pyrazole Nucleoside Analogues: Enzymatic Synthesis, Characterization, and Biological Evaluation. *Int J Mol Sci* 27 (17), 7551, 10.3390/ijms27177551
2. Baskova MV, Tereshin MN, Telepenina KP, Shoshina NS, Komyakova AM, **Eletskaya BZ**, Berzina MY, Ikryannikova LN, Stepanenko VN, Melikhova TD (2026). Impact of base matrix types on the properties of affinity chromatography resins with ligands based on staphylococcal protein A B-domain multimers. *MENDELEEV COMMUN* 36 (4), 404–406, 10.71267/mencom.7973
3. Pshenichnikova MS, Yakovlev DS, Spasov AA, Naumenko LV, Chebanko AM, Dorofeeva EV, Berzina MY, **Yeletskaya BZ**, Konstantinova ID (2026). Ophthalmotropic effect of the compound Cl-ALA-OH-AR in the experiment. *Eksp i Klin Farm* 89 (3), 8–12, 10.30906/0869-2092-2026-89-3-8-12
4. Pshenichnikova MS, Yakovlev DS, Spasov AA, Naumenko LV, Chebanko AM, Dorofeeva EV, Berzina MY, **Yeletskaya BZ**, Konstantinova ID (2026). Antiglaucoma and local irritant effects of the A1/A2A adenosine receptor agonist — the compound Cl-Ala-OH-AR. *Eksp i Klin Farm* 89 (1), 8–13, 10.30906/0869-2092-2026-89-1-8-13
5. Fateev IV, Sasmakov SA, Ziyaev AA, Abdurakhmanov ZM, Toshmurodov TT, Ikramov SA, Tosheva NA, Frolova VD, Zorina EA, Zayats EA, **Eletskaya BZ**, Smirnova OS, Berzina MY, Arnautova AO, Abramchik YA, Kostromina MA, Kayushin AL, Antonov KV, Prokhorenko IA, Paramonov AS, Andronova VL, Esipov RS, Azimova SS, Miroshnikov AI, Konstantinova ID (2025). Enzymatic Synthesis and Molecular Docking Studies of Substituted 5-Phenyl-1,2,4-triazole-3-thione Deoxyribosides. *Russ. J. Bioorganic Chem.* 51 (4), 1780–1788, 10.1134/S1068162025602125
6. Arnautova AO, Aleksakhina IA, Zorina EA, Berzina MY, Fateev IV, **Eletskaya BZ**, Antonov KV, Smirnova OS, Paramonov AS, Kayushin AL, Andronova VL, Galegov GA, Kostromina MA, Zayats EA, Karpenko IL, Kotovskaya SK, Charushin VN, Esipov RS, Miroshnikov AI, Konstantinova ID (2025). New Benzimidazole 3′-Deoxynucleosides: Synthesis and Antiherpes Virus Properties. *Biomolecules* 15 (7), 922, 10.3390/biom15070922
7. Arnautova AO, Antonov KV, Zorina EA, Simonova MA, Paramonov AS, Zhukova OS, Kiselevskiy MV, Kayushin AL, Fateev IV, Dorofeeva EV, **Eletskaya BZ**, Berzina MY, Smirnova OS, Egorova TV, Esipov RS, Miroshnikov AI, Konstantinova ID (2025). 2-Fluorocordycepin: Chemoenzymatic Synthesis and Study of Anticancer Activities In Vitro. *Russ. J. Bioorganic Chem.* 51 (3), 1189–1205, 10.1134/S1068162025601144
8. Tereshin MN, Melikhova TD, **Eletskaya BZ**, Ivanova EA, Onoprienko LV, Makarov DA, Razumikhin MV, Myagkikh IV, Fabrichniy IP, Stepanenko VN (2024). Biocatalytic Method for Producing an Affinity Resin for the Isolation of Immunoglobulins. *Biomolecules* 14 (7), 849, 10.3390/biom14070849
9. **Eletskaya BZ**, Mironov AF, Fateev IV, Berzina MY, Antonov KV, Smirnova OS, Zatsepina AB, Arnautova AO, Abramchik YA, Paramonov AS, Kayushin AL, Khandazhinskaya AL, Matyugina ES, Kochetkov SN, Miroshnikov AI, Mikhailopulo IA, Esipov RS, Konstantinova ID (2024). Enzymatic Transglycosylation Features in Synthesis of 8-Aza-7-Deazapurine Fleximer Nucleosides by Recombinant E. coli PNP: Synthesis and Structure Determination of Minor Products. *Biomolecules* 14 (7), 798, 10.3390/biom14070798
10. Fateev IV, Sasmakov SA, Abdurakhmanov JM, Ziyaev AA, Khasanov SS, Eshboev FB, Ashirov ON, Frolova VD, **Eletskaya BZ**, Smirnova OS, Berzina MY, Arnautova AO, Abramchik YA, Kostromina MA, Kayushin AL, Antonov KV, Paramonov AS, Andronova VL, Galegov GA, Esipov RS, Azimova SS, Miroshnikov AI, Konstantinova ID (2024). Synthesis of Substituted 1,2,4-Triazole-3-Thione Nucleosides

Using E. coli Purine Nucleoside Phosphorylase. *Biomolecules* 14 (7), 745, 10.3390/biom14070745

11. Tereshin MN, Melikhova TD, **Eletskaya BZ**, Ksenofontova OB, Pantyushenko PV, Berzina MY, Ivanov I, Myagkikh IV, Stepanenko VN (2024). Affinity Resins for the Isolation of Immunoglobulins G Obtained Using Biocatalytic Technology. *Int J Mol Sci* 25 (3), 1367, 10.3390/ijms25031367
12. Khandazhinskaya A, **Eletskaya B**, Mironov A, Konstantinova I, Efremenkova O, Andreevskaya S, Smirnova T, Chernousova L, Kondrashova E, Chizhov A, Seley-Radtke K, Kochetkov S, Matyugina E (2023). New Flexible Analogues of 8-Aza-7-deazapurine Nucleosides as Potential Antibacterial Agents. *Int J Mol Sci* 24 (20), 15421, 10.3390/ijms242015421
13. Berzina MY, **Eletskaya 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
14. **Eletskaya 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
15. Khandazhinskaya A, Fateev I, **Eletskaya B**, Maslova A, Konstantinova I, Seley-Radtke K, Kochetkov S, Matyugina E (2023). Design and Synthesis of New Modified Flexible Purine Bases as Potential Inhibitors of Human PNP. *Molecules* 28 (3), 928, 10.3390/molecules28030928
16. Smirnova OS, Berzina MY, Fateev IV, **Eletskaya 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
17. Zayats EA, Fateev IV, Kostromina MA, Abramchik YA, Lykoshin DD, Yurovskaya DO, Timofeev VI, Berzina MY, **Eletskaya BZ**, Konstantinova ID, Esipov RS (2022). Rational Mutagenesis in the Lid Domain of Ribokinase from E. coli Results in an Order of Magnitude Increase in Activity towards D-arabinose. *Int J Mol Sci* 23 (20), , 10.3390/ijms232012540
18. Berzina MY, **Eletskaya 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
19. Khandazhinskaya A, **Eletskaya B**, Fateev I, Kharitonova M, Konstantinova I, Barai V, Azhayev A, Hyvonen MT, Keinanen TA, Kochetkov S, Seley-Radtke K, Khomutov A, Matyugina E (2021). Novel fleximer pyrazole-containing adenosine analogues: chemical, enzymatic and highly efficient biotechnological synthesis. *Org Biomol Chem* 19 (34), 7379–7389, 10.1039/d1ob01069g
20. Fateev IV, Kostromina MA, Abramchik YA, **Eletskaya BZ**, Mikheeva OO, Lukoshin DD, Zayats EA, Berzina MY, Dorofeeva EV, Paramonov AS, Kayushin AL, Konstantinova ID, Esipov RS (2021). Multi-enzymatic cascades in the synthesis of modified nucleosides: Comparison of the thermophilic and mesophilic pathways. *Biomolecules* 11 (4), 586, 10.3390/biom11040586
21. **(book)** Konstantinova ID, Kayushin AL, Arnautova AO, Antonov KV, **Yeletskaya 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.
22. Naumenko V, Nikitin A, Garanina A, Melnikov P, Vodopyanov S, Kapitanova K, Potashnikova D, Vishnevskiy D, Alieva I, Ilyasov A, **Eletskaya BZ**, Abakumov M, Chekhonin V, Majouga A (2020).

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23. **Eletskaya 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
24. **Eletskaya BZ**, Konstantinova ID, Paramonov AS, Esipov RS, Gruzdev DA, Vigorov AY, Levit GL, Miroshnikov AI, Krasnov VP, Charushin VN (2016). Chemoenzymatic arabinosylation of 2-aminopurines bearing the chiral fragment of 7,8-difluoro-3-methyl-3,4-dihydro-2H-[1,4]benzoxazines. *MENDELEEV COMMUN* 26 (1), 6–8, 10.1016/j.mencom.2016.01.003