

Попов Игорь Алексеевич

К.ф.-м.н., доц.

**SPIN-код автора (eLIBRARY.RU):** 4779-2100  
**ResearcherID:** O-4615-2014  
**ORCID:**  
**Scopus Author ID:** 7202087266

Руководитель Департамента МБФ

#### Публикации в рецензируемых журналах:

2012

1. Ambient molecular imaging of dry fungus surface by electrospray laser desorption ionization mass spectrometry. Huang, Min-Zong, Cheng, Sy-Chyi, Jhang, Siou-Sian, Chou, Chih-Chiang, Cheng, Chu-Nian, Shiea, Jentaie, Popov, Igor A., Nikolaev, Eugene N., 2012. *INTERNATIONAL JOURNAL OF MASS SPECTROMETRY*, 325, pp.172-182. <https://doi.org/10.1016/j.ijms.2012.06.015> IF = 1.761
2. Changes in urine protein composition in human organism during long term space flights. Pastushkova, L. Kh.; Valeeva, O. A.; Kononikhin, A. S.; Nikolaev, E. N.; Larina, I. M.; Dobrokhotov, I. V.; Popov, I. A.; Pochuev, V. I.; Kireev, K. S.; Grigoriev, A. I., 2012. *ACTA ASTRONAUTICA*, 81(2), pp.430-434. <https://doi.org/10.1016/j.actaastro.2012.08.029> IF = 1.596
3. Simple Atmospheric Hydrogen/Deuterium Exchange Method for Enumeration of Labile Hydrogens by Electrospray Ionization Mass Spectrometry. Kostyukevich, Yury; Kononikhin, Alexey; Popov, Igor; Nikolaev, Eugene, 2013. *ANALYTICAL CHEMISTRY*, 85(11), pp.5330-5334 **DOI:** 10.1021/ac4006606 IF = 6.32

2013

4. Enumeration of Labile Hydrogens in Natural Organic Matter by Use of Hydrogen/Deuterium Exchange Fourier Transform Ion Cyclotron Resonance Mass Spectrometry. Kostyukevich, Yury; Kononikhin, Alexey; Popov, Igor; Kharybin, Oleg; Perminova, Irina; Konstantinov, Andrey; Nikolaev, Eugene, 2013. *ANALYTICAL CHEMISTRY*, 85(22), pp.11007-11013 **DOI:** 10.1021/ac402609x IF = 6.32
5. Detection of Renal Tissue and Urinary Tract Proteins in the Human Urine after Space Flight. Pastushkova, Lyudmila Kh.; Kireev, Kirill S.; Kononikhin, Alexey S.; Tiys, Evgeny S.; Popov, Ipp.gor A.; Starodubtseva, Natalia L.; Dobrokhotov, Igor V.; Ivanisenko, Vladimir A.; Larina, Irina M.; Kolchanov, Nicolay A.; Nikolaev, Evgeny N., 2013. *PLOS ONE*, 8(8), e71652. <https://doi.org/10.1371/journal.pone.0071652> IF = none.

6. Potassium Ions are More Effective than Sodium Ions in Salt Induced Peptide Formation. Dubina, Michael V.; Vyazmin, Sergey Yu.; Boitsov, Vitali M.; Nikolaev, Eugene N.; Popov, Igor A.; Kononikhin, Alexey S.; Eliseev, Igor E.; Natochin, Yuri V., 2013. *ORIGINS OF LIFE AND EVOLUTION OF BIOSPHERES*, 43(2), pp.109-117. DOI: 10.1007/s11084-013-9326-5 doi: [10.1007/s11084-013-9326-5](https://doi.org/10.1007/s11084-013-9326-5) IF = 1.000

7. Signal enhancement in electrospray laser desorption/ionization mass spectrometry by using a black oxide-coated metal target and a relatively low laser fluence. Kononikhin, Alexey; Huang, Min-Zong; Popov, Igor; Kostyukevich, Yury; Kukaev, Evgeny; Boldyrev, Alexey; Spasskiy, Alexander; Leypunskiy, Ilya; Shiea, Jentaie; Nikolaev, Eugene, 2013. *EUROPEAN JOURNAL OF MASS SPECTROMETRY*, 19(4), pp.247-252 <https://doi.org/10.1255/ejms.1229> IF = 1.022

8. Mass spectrometric identification of posttranslational modifications in transthyretin from human blood. Popov, I. A.; Starodubtseva, N. L.; Indeikina, M. I.; Kostyukevich, Yu. I.; Kononikhin, A. S.; Nikolaeva, M. I.; Kukaev, E. N.; Kozin, S. A.; Makarov, A. A.; Nikolaev, E. N., 2013. *MOLECULAR BIOLOGY*, 47(6) pp.885-893. DOI: 10.1134/S0026893313060125. IF = 0.799

9. Changes of Protein Profile of Human Urine after Long-Term Orbital Flights. Pastushkova, L. Kh.; Valeeva, O. A.; Kononikhin, A. S.; Nikolaev, E. N.; Larina, I. M.; Dobrokhotov, I. V.; Popov, I. A.; Pochuev, V. I.; Kireev, K. S., 2013. *BULLETIN OF EXPERIMENTAL BIOLOGY AND MEDICINE*, 156(2), pp.201-204 <https://doi.org/10.1007/s10517-013-2310-2> IF = 0.456

2014

10. Conformational changes of ubiquitin during electrospray ionization as determined by in-ESI source H/D exchange combined with high-resolution MS and ECD fragmentation. Kostyukevich, Yury; Kononikhin, Alexey; Popov, Igor; Nikolaev, Eugene, 2014. *JOURNAL OF MASS SPECTROMETRY*, 49(10), pp.989-994 DOI: 10.1002/jms.3409. IF = 2.422

11. In-ESI Source Hydrogen/Deuterium Exchange of Carbohydrate Ions. Kostyukevich, Yury; Kononikhin, Alexey; Popov, Igor; Nikolaev, Eugene, 2014. *ANALYTICAL CHEMISTRY*, 86(5), pp.2595-2600 DOI: 10.1021/ac4038202

12. Enumeration of non-labile oxygen atoms in dissolved organic matter by use of O-16/O-18 exchange and Fourier transform ion-cyclotron resonance mass spectrometry. Kostyukevich, Yury; Kononikhin, Alexey; Zhrebker, Alexander; Popov, Igor; Perminova, Irina; Nikolaev, Eugene, 2014. *ANALYTICAL AND BIOANALYTICAL CHEMISTRY*, 406(26), pp.6655-6664 DOI 10.1007/s00216-014-8097-9. IF = 3.431

13. Separation of tautomeric forms of [2-nitrophenol-glucitol-H]<sup>(-)</sup> by an in-electrospray ionization source hydrogen/deuterium exchange approach. Kostyukevich, Yury; Kononikhin, Alexey; Popov, Igor; Starodubtseva, Natalia; Kukaev, Eugene; Nikolaev, Eugene, 2014. *EUROPEAN JOURNAL OF MASS SPECTROMETRY*, 20(4), pp.345-349. <https://doi.org/10.1255/ejms.1282> IF = 1.022

14. Twelve Million Resolving Power on 4.7 T Fourier Transform Ion Cyclotron Resonance Instrument with Dynamically Harmonized Cell-Observation of Fine Structure in Peptide Mass Spectra. Popov, Igor A.;

Nagornov, Konstantin; Vladimirov, Gleb N.; Kostyukevich, Yury I.; Nikolaev, Eugene N.,2014. *JOURNAL OF THE AMERICAN SOCIETY FOR MASS SPECTROMETRY*,25(5),pp.790-799. DOI: 10.1007/s13361-014-0846-7. IF = 2.786

15. Time-course human urine proteomics in space-flight simulation experiments. Binder, Hans; Wirth, Henry; Arakelyan, Arsen; Lembcke, Kathrin; Tiys, Evgeny S.; Ivanisenko, Vladimir A.; Kolchanov, Nikolay A.; Kononikhin, Alexey; Popov, Igor; Nikolaev, Evgeny N.; Pastushkova, Lyudmila Kh; Larina, Irina M.,2014. *BMC GENOMICS*,15,pp. doi: [10.1186/1471-2164-15-S12-S2](https://doi.org/10.1186/1471-2164-15-S12-S2). IF = 3.729

16. Application of de novo sequencing tools to study abiogenic peptide formations by tandem mass spectrometry. The case of homo-peptides from glutamic acid complicated by substitutions of hydrogen by sodium or potassium atoms. Terterov, Ivan; Vyatkina, Kira; Kononikhin, Alexey S.; Boitsov, Vitali; Vyazmin, Sergey; Popov, Igor A.; Nikolaev, Eugene N.; Pevzner, Pavel; Dubina, Michael,2014. *RAPID COMMUNICATIONS IN MASS SPECTROMETRY*,28(1),pp.33-41. DOI: 10.1002/rcm.6757. IF = 1.998

2015

17. In ESI-source H/D exchange under atmospheric pressure for peptides and proteins of different molecular weights from 1 to 66kDa: the role of the temperature of the desolvating capillary on H/D exchange. Kostyukevich, Yury; Kononikhin, Alexey; Popov, Igor; Spasskiy, Alexander; Nikolaev, Eugene,2015. *JOURNAL OF MASS SPECTROMETRY*,50(1),pp.49-55. DOI: 10.1002/jms.3535. IF = 2.422

18. Synthesis of model humic substances: a mechanistic study using controllable H/D exchange and Fourier transform ion cyclotron resonance mass spectrometry. Zherebker, Alexander Ya; Airapetyan, David; Konstantinov, Andrey I.; Kostyukevich, Yury I.; Kononikhin, Alexey S.; Popov, Igor A.; Zaitsev, Kirill V.; Nikolaev, Eugene N.; Perminova, Irina V.,2015.*ANALYST*,140(13),pp.4708-4719. DOI: 10.1039/c5an00602c. IF = 3.885

19. Supermetallization of peptides and proteins during electrospray ionization. Kostyukevich, Yury; Kononikhin, Alexey; Popov, Igor; Indeykina, Maria; Kozin, Sergey A.; Makarov, Alexander A.; Nikolaev, Eugene,2015.*JOURNAL OF MASS SPECTROMETRY*,50(9),pp.1079-1087 DOI: 10.1002/jms.3622 IF = 2.422

20. Analytical potential of the in-electrospray ionization source hydrogen/deuterium exchange for the investigation of oligonucleotides. Kostyukevich, Yury; Kononikhin, Alexey; Popov, Igor; Starodubtzeva, Natalia; Pekov, Stanislav; Kukaev, Eugene; Indeykina, Maria; Nikolaev, Eugene,2015. *EUROPEAN JOURNAL OF MASS SPECTROMETRY*,21(1),pp.59-63 doi: 10.1255/ejms.1330. IF = 1.022

21. A novel direct spray-from-tissue ionization method for mass spectrometric analysis of human brain tumors. Kononikhin, Alexey; Zhvansky, Evgeny; Shurkhay, Vsevolod; Popov, Igor; Bormotov, Denis; Kostyukevich, Yury; Karchugina, Sofiia; Indeykina, Maria; Bugrova, Anna; Starodubtseva, Natalia; Potapov, Alexander; Nikolaev, Eugene,2015. *ANALYTICAL AND BIOANALYTICAL CHEMISTRY*,407(25),pp.7797-7805 doi:10.1038/srep10077. IF = 3.431

22. Changes in spectral properties and composition of lipofuscin fluorophores from human-retinal-pigment epithelium with age and pathology. Feldman, Tatiana B.; Yakovleva, Marina A.; Arbukhanova, Patimat M.; Borzenok, Sergey A.; Kononikhin, Alexey S.; Popov, Igor A.; Nikolaev, Evgeny N.; Ostrovsky, Mikhail A.,2015. *ANALYTICAL AND BIOANALYTICAL CHEMISTRY*,407(4),pp.1075-1088 DOI 10.1007/s00216-014-8353-z IF = 3.431

23. Permanent proteins in the urine of healthy humans during the Mars-500 experiment. Larina, Irina M.; Pastushkova, Lyudmila Kh.; Tiys, Evgeny S.; Kireev, Kirill S.; Kononikhin, Alexey S.; Starodubtseva, Natalia L.; Popov, Igor A.; Custaud, Marc-Antoine; Dobrokhotov, Igor V.; Nikolaev, Evgeny N.; Kolchanov, Nikolay A.; Ivanisenko, Vladimir A.,2015. *JOURNAL OF BIOINFORMATICS AND COMPUTATIONAL BIOLOGY*,13(1),pp.- doi: 10.1142/S0219720015400016 IF = 0.97

24. Observation of the O-16/O-18 exchange during electrospray ionization. Kostyukevich, Yury; Kononikhin, Alexey; Popov, Igor; Nikolaev, Eugene,2015. *EUROPEAN JOURNAL OF MASS SPECTROMETRY*,21(2),pp.109-113 doi: 10.1255/ejms.1373 IF = 1.022

25. Conformations of cationized linear oligosaccharides revealed by FTMS combined with in-ESI H/D exchange. Kostyukevich, Yury; Kononikhin, Alexey; Popov, Igor; Nikolaev, Eugene,2015.*JOURNAL OF MASS SPECTROMETRY*,50(10),pp.1150-1156 DOI 10.1002/jms.3633 IF = 2.422

26. Observation of the multiple halogenation of peptides in the electrospray ionization source. Kostyukevich, Yury; Zhdanova, Ekaterina; Kononikhin, Alexey; Popov, Igor; Kukaev, Eugene; Nikolaev, Eugene,2015.*JOURNAL OF MASS SPECTROMETRY*,50(7),pp.899-905 DOI 10.1002/jms.3599 IF = 2.422

2016

27. An untargeted approach for the analysis of the urine peptidome of women with preeclampsia. Kononikhin, A. S.; Starodubtseva, N. L.; Bugrova, A. E.; Shirokova, V. A.; Chagovets, V. V.; Indeykina, M. I.; Popov, I. A.; Kostyukevich, Yd.; Vavina, O. V.; Muminova, K. T.; Khodzhaeva, Z. S.; Kan, N. E.; Frankevich, V. E.; Nikolaev, E. N.; Sukhikh, G. T.,2016. *JOURNAL OF PROTEOMICS*,149,pp.38-43

28. Supermetallization of peptides and proteins with tetravalent metal Th(IV). Kostyukevich, Yury; Kononikhin, Alexey; Popov, Igor; Kukaev, Eugene; Shiea, Jentaie; Nikolaev, Eugene,2016. *EUROPEAN JOURNAL OF MASS SPECTROMETRY*,22(1),pp.39-42 DOI: 10.1255/ejms.1405

29. High desolvation temperature facilitates the ESI-source H/D exchange at non-labile sites of hydroxybenzoic acids and aromatic amino acids. Zhrebker, Alexander; Kostyukevich, Yury; Kononikhin, Alexey; Roznyatovsky, Vitaliy A.; Popov, Igor; Grishin, Yuri K.; Perminova, Irina V.; Nikolaev, Eugene,2016.*ANALYST*,141(8),pp.2426-2434 DOI: 10.1039/c5an02676h

30. Investigation of urine proteome of preterm newborns with respiratory pathologies. Starodubtseva, Natalia L.; Kononikhin, Alexey S.; Bugrova, Anna E.; Chagovets, Vitaliy; Indeykina, Maria; Krokhina, Ksenia N.; Nikitina, Irina V.; Kostyukevich, Yury I.; Popov, Igor A.; Larina, Irina M.; Timofeeva, Leila A.; Frankevich,

Vladimir E.; Ionov, Oleg V.; Degtyarev, Dmitry N.; Nikolaev, Eugene N.; Sukhikh, Gennady T.,2016. *JOURNAL OF PROTEOMICS*,149,pp.31-37 <https://doi.org/10.1016/j.jprot.2016.06.012>

31. Proteomic Analysis of Exhaled Breath Condensate for Diagnostics of Respiratory System Diseases. Kononikhin, A. S.; Fedorchenko, K. Yu.; Ryabokon, A. M.; Starodubtseva, N. L.; Popov, I. A.; Zavalova, M. G.; Anaev, E. C.; Chuchalin, A. G.; Varfolomeev, S. D.; Nikolaev, E. N.,2016. *BIOCHEMISTRY MOSCOW-SUPPLEMENT SERIES B-BIOMEDICAL CHEMISTRY*,10(3),pp.230-234 DOI: 10.1134/S1990750816030069

32. The investigation of the bitumen from ancient Greek amphora using FT ICR MS, H/D exchange and novel spectrum reduction approach. Kostyukevich, Yury; Solovyov, Sergey; Kononikhin, Alexey; Popov, Igor; Nikolaev, Eugene,2016.*JOURNAL OF MASS SPECTROMETRY*,51(6),pp.430-436 DOI: 10.1002/jms.3769

33. Supermetallization of Substance P during electrospray ionization. Kostyukevich, Yury I.; Kononikhin, Alexey S.; Popov, Igor A.; Indeykina, Maria I.; Nikolaev, Eugene N.,2016.*MENDELEEV COMMUNICATIONS*,26(2),pp.111-113 <https://doi.org/10.1016/j.mencom.2016.03.008>

34. Localization of zinc binding sites of Ab1-16 with English mutation during formation of monomers and dimers with zinc. Indeykina, Maria; Kononikhin, Alexey; Popov, Igor; Kostyukevich, Yury; Kulikova, Alexandra; Mitkevich, Vladimir; Kozin, Sergey; Makarov, Alexander; Nikolaev, Eugene,2016. *INTERNATIONAL JOURNAL OF MASS SPECTROMETRY*,409,pp.67-72 <https://doi.org/10.1016/j.ijms.2016.09.009> IF = 1.761

35. Application of deuterium-hydrogen exchange to study the secondary structure of oligonucleotide ions in a gas phase. Kostyukevich, Yu. I.; Kononikhin, A. S.; Popov, I. A.; Bugrova, A. E.; Starodubtseva, N. L.; Nikolaev, E. N.,2016.*HIGH ENERGY CHEMISTRY*,50(6),pp.427-432 DOI: 10.1134/S0018143916060096 IF = 0.721

36. Supermetallization of Peptides and Proteins Studied by High Resolution Mass Spectrometry. Kukaev, Eugeny; Kostyukevich, Yury; Kononikhin, Alexey; Indeykina, Maria; Popov, Igor; Nikolaev, Eugene,2016. *PROTEIN SCIENCE*,25,pp.14-14 DOI: 10.1002/pro.3026 IF = 2.523

37. Comparison of Solid-Phase Extraction and Size Exclusion Chromatography applied for preparation of urine samples from pregnant women for LC-MSMS. Shirokova, V. A.; Bugrova, A. E.; Starodubtseva, N. L.; Kononikhin, A. S.; Khodzhaeva, Z. S.; Muminova, K.; Popov, I. A.; Frankevich, V. E.; Nikolaev, E. N.; Sukhikh, G. T.,2016.*PROTEIN SCIENCE*,25,pp.123-124 DOI: 10.1002/pro.3026 IF = 2.523

38. Evaporation of the charged droplets in the heating flow tube under atmospheric pressure: observation of the H/D exchange and supermetallization. Kostyukevich, Yury I.; Kononikhin, Alexey S.; Popov, Igor A.; Nikolaev, Eugene N.,2016.*MENDELEEV COMMUNICATIONS*,26(5),pp.440-442 DOI: 10.1016/j.mencom.2016.09.026 IF = 1.388

39. The investigation of the birch tar using ultrahigh resolution Fourier transform ion cyclotron resonance mass spectrometry and Hydrogen/Deuterium exchange approach. Kostyukevich, Yury; Zhrebker, Alexander; Kononikhin, Alexey; Popov, Igor; Perminova, Irina; Nikolaev, Eugene,2016.*INTERNATIONAL JOURNAL OF MASS SPECTROMETRY*,404,pp.29-34 <https://doi.org/10.1016/j.ijms.2016.03.012> IF = 1.761

40. Peculiarities of data interpretation upon direct tissue analysis by Fourier transform ion cyclotron resonance mass spectrometry. Chagovets, Vitaliy; Kononikhin, Aleksey; Starodubtseva, Nataliia; Kostyukevich, Yury; Popov, Igor; Frankevich, Vladimir; Nikolaev, Eugene, 2016. *EUROPEAN JOURNAL OF MASS SPECTROMETRY*, 22(3), pp.123-126 doi: 10.1255/ejms.1425. IF = 1.022
41. Electron-capture dissociation and collision-induced dissociation fragmentation of the supermetallized complexes of Substance P with potassium, cesium and silver. Kostyukevich, Yury; Zherebker, Alexander; Kononikhin, Alexey; Indeykina, Maria; Popov, Igor; Nikolaev, Eugene, 2016. *EUROPEAN JOURNAL OF MASS SPECTROMETRY*, 22(2), pp.91-95 <https://doi.org/10.1255/ejms.1411> IF = 1.022
42. Thermal desorption combined with atmospheric pressure photo ionization for the analysis of volatile compounds and its possible applications. Kostyukevich, Yury; Borisova, Ludmila; Kononikhin, Alexey; Popov, Igor; Kukaev, Eugene; Nikolaev, Eugene, 2016. *EUROPEAN JOURNAL OF MASS SPECTROMETRY*, 22(6), pp.313-317 <https://doi.org/10.1255/ejms.1442> IF = 1.022
43. Atmospheric pressure thermal ionization ion source for peptide analysis. Kukaev, Eugenii N.; Kononikhin, Alexey S.; Starodubtseva, Natalia L.; Kostyukevich, Yury I.; Popov, Igor A.; Chagovets, Vitaliy; Nagornov, Konstantin O.; Popov, Yury V.; Nikolaev, Eugene N., 2016. *EUROPEAN JOURNAL OF MASS SPECTROMETRY*, 22(6), pp.307-311 <https://doi.org/10.1255/ejms.1443> IF = 1.022
44. Thermal dissociation of ions limits the degree of the gas-phase H/D exchange at the atmospheric pressure. Kostyukevich, Y; Kononikhin, A; Popov, I; Nikolaev, E, 2017. *Journal of mass spectrometry : JMS*, 52(4), pp.204-209 DOI: 10.1002/jms.3917
45. Exhaled breath condensate analysis from intubated newborns by nano-HPLC coupled to high resolution MS. Kononikhin, A. S.; Starodubtseva, N. L.; Chagovets, V. V.; Ryndin, A. Y.; Burov, A. A.; Popov, I. A.; Bugrova, A. E.; Dautov, R. A.; Tokareva, A. O.; Podurovskaya, Y. L.; Ionov, O. V.; Frankevich, V. E.; Nikolaev, E. N.; Sukhikh, G. T., 2017. *JOURNAL OF CHROMATOGRAPHY B-ANALYTICAL TECHNOLOGIES IN THE BIOMEDICAL AND LIFE SCIENCES*, 1047, pp.97-105 <https://doi.org/10.1016/j.jchromb.2016.12.036>
46. Spaceflight induced changes in the human proteome. Kononikhin, Alexey S.; Starodubtseva, Natalia L.; Pastushkova, Lyudmila Kh.; Kashirina, Daria N.; Fedorchenko, Kristina Yu.; Brhozovsky, Alexander G.; Popov, Igor A.; Larina, Irina M.; Nikolaev, Evgeny N., 2017. *EXPERT REVIEW OF PROTEOMICS*, 14(1), pp.15-29 <http://dx.doi.org/10.1080/14789450.2017.1258307> IF = 3.849

2017

46. Kostyukevich, Y., Shulga, A. A., Kononikhin, A., Popov, I., Nikolaev, E., & Deyev, S. (2017). CID fragmentation, H/D exchange and supermetallization of Barnase-Barstar complex. *Scientific reports*, 7(1), 6176. IF = 4.2
48. Kostyukevich, Y. I., Kononikhin, A. S., Indeykina, M. I., Popov, I. A., Bocharov, K. V., Spassky, A. I., ... & Nikolaev, E. N. (2017). Secondary structure of A $\beta$  (1–16) complexes with zinc: A study in the gas phase using

deuterium/hydrogen exchange and ultra-high-resolution mass spectrometry. *Molecular Biology*, 51(4), 627-632. IF = 0.8

49. Kostyukevich, Y., Ovchinnikov, G., Kononikhin, A., Popov, I., Oseledets, I., & Nikolaev, E. (2017). Thermal dissociation and H/D exchange of streptavidin tetramers at atmospheric pressure. *International Journal of Mass Spectrometry*. IF = 1.7

50. Pekov, S., Indeykina, M., Popov, I., Kononikhin, A., Bocharov, K., Kozin, S. A., ... & Nikolaev, E. (2017). Application of MALDI-TOF/TOF-MS for relative quantitation of  $\alpha$ - and  $\beta$ -Asp7 isoforms of amyloid- $\beta$  peptide. *European Journal of Mass Spectrometry*, 1469066717730544. IF = 1.0

51. Kostyukevich, Y., Kononikhin, A., Popov, I., and Nikolaev, E. (2017) Thermal dissociation of ions limits the degree of the gas-phase H/D exchange at the atmospheric pressure. *J. Mass Spectrom.*, 52: 204–209. doi: 10.1002/jms.3917. IF = 2.38

52. Kostyukevich Y, Vlaskin M, Vladimirov G, Zhrebker A, Kononikhin A, Popov I, Nikolaev E (2017) The investigation of the bio-oil produced by hydrothermal liquefaction of *Spirulina platensis* using ultrahigh resolution Fourier transform ion cyclotron resonance mass spectrometry. *Eur J Mass Spectrom* 23:83–88. IF = 1.0

53. Kostyukevich Y, Vlaskin M, Borisova L, Zhrebker A, Perminova I, Kononikhin A, Popov I, Nikolaev E (2017) Investigation of bio-oil produced by hydrothermal liquefaction of food waste using ultrahigh resolution Fourier transform ion cyclotron resonance mass spectrometry. *Eur J Mass Spectrom* 1469066717737904. IF = 1.0

54. Zhrebker, A., Turkova, A. V., Kostyukevich, Y., Kononikhin, A., Zaitsev, K. V., Popov, I. A., ... & Perminova, I. V. (2017). Synthesis of carboxylated styrene polymer for internal calibration of Fourier transform ion cyclotron resonance mass-spectrometry of humic substances. *European Journal of Mass Spectrometry*, 23(4), 156-161. IF = 1.0

55. Kononikhin AS, Starodubtseva NL, Pastushkova LK, Kashirina DN, Fedorchenko KY, Brzhozovskiy AG, Popov IA, Larina IM, Nikolaev EN. Spaceflight induced changes in the human proteome. *Expert Rev Proteomics*. (2017) Jan;14(1):15-29. doi: 10.1080/14789450.2017.1258307. IF = 3.85

56. Brzhozovskiy A, Kononikhin A, Indeykina M, Pastushkova L, Popov IA, Nikolaev EN, Larina IM. Label-free study of cosmonaut's urinary proteome changes after long-duration spaceflights. *European Journal of Mass Spectrometry* (2017 r.). IF = 1.0

57. Kononikhin AS, Starodubtseva NL, Chagovets VV, Ryndin AY, Burov AA, Popov IA, Bugrova AE, Dautov RA, Tokareva AO, Podurovskaya YL, Ionov OV, Frankevich VE, Nikolaev EN, Sukhikh GT. Exhaled breath condensate analysis from intubated newborns by nano-HPLC coupled to high resolution MS. *J Chromatogr B Analyt Technol Biomed Life Sci*. 2017 Mar 15;1047:97-105 . IF = 2.61