

**SEZNAM PRACÍ**

**LIST OF PAPERS**

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of the Czech Academy of Sciences**

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In the List of Papers 2018 the papers are divided into the following sections:

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- B.** Books and Chapters in Books
- C.** Conference proceedings
- D.** Research Reports
- E.** Patents, Patent Applications
- F.** Varia
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## A. ORIGINAL PAPERS AND REVIEWS

1. Burhenn, S., Kratzer, J., Svoboda, M., Klute, F. D., Michels, A., Veža, D., Franzke, J.  
Spatially and temporally resolved detection of arsenic in a capillary dielectric barrier discharge by hydride generation high-resolved optical emission spectrometry.  
*Analytical Chemistry*. 2018, 90(5), 3424-3429. ISSN 0003-2700.
2. Coufalík, P., Meszarosová, N., Coufalíková, K., Zvěřina, O., Komárek, J.  
Determination of methylmercury in cryptogams by means of GC-AFS using enzymatic hydrolysis.  
*Microchemical Journal*. 2018, 140(JUL), 8-13. ISSN 0026-265X.
3. Coufalík, P., Čmelík, R., Křůmal, K., Čapka, L., Mikuška, P.  
Determination of short-term changes in levoglucosan and dehydroabietic acid in aerosols with Condensation Growth Unit - Aerosol Counterflow Two Jets Unit - LC-MS.  
*Chemosphere*. 2018, 210(NOV), 279-286. ISSN 0045-6535.
4. Coufalík, P., Krmíček, L., Zvěřina, O., Meszarosová, N., Hladil, J., Komárek, J.  
Model of mercury flux associated with volcanic activity.  
*Bulletin of Environmental Contamination and Toxicology*. 2018, 101(5), 549-553. ISSN 0007-4861.
5. Coufalík, P., Krmíček, L., Zvěřina, O., Meszarosová, N., Hladil, J., Komárek, J.  
Correction to: Model of mercury flux associated with volcanic activity.  
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6. Čampulová, M., Michálek, J., Mikuška, P., Bokal, D. Nonparametric algorithm for identification of outliers in environmental data. *Journal of Chemometrics*. 2018, 32(5), e2997.
7. Čapka, L., Mikuška, P., Šesták, J.  
Multiaplikační zařízení pro vzorkování a dávkování kapalných vzorků.  
*Chemické listy*. 2018, 112(3), 196-200. ISSN 0009-2770.
8. Černíková, A., Bobál, P., Bobálová, J., Dohnal, J., Jampílek, J.  
Investigation of permeation of acyclovir through skin using alaptide.  
*Acta Chromatographica*. 2018, 30(1), 62-65. ISSN 1233-2356.
9. Datinská, V., Voráčková, I., Schlecht, U., Berka, J., Foret, F.  
Recent progress in nucleic acids isotachopheresis.  
*Journal of Separation Science*. 2018, 41(1), 236-247. ISSN 1615-9306.
10. Datinská, V., Voráčková, I., Berka, J., Foret, F.  
Preparative concentration of nucleic acids fragments by capillary isotachopheretic analyzer.  
*Journal of Chromatography A*. 2018, 1548(MAY), 100-103. ISSN 0021-9673.

11. Datinská, V., Klepárník, K., Belšánová, B., Minárik, M., Foret, F.  
Capillary electrophoresis, a method for the determination of nucleic acid ligands covalently attached to quantum dots representing a donor of Forster resonance energy transfer.  
*Journal of Separation Science*. 2018, 41(14), 2961-2968. ISSN 1615-9306.
12. Dufka, M., Dočekal, B.  
Characterization of urban particulate matter by diffusive gradients in thin film technique.  
*Journal of Analytical Methods in Chemistry*. 2018, 2018(FEB), 9698710. ISSN 2090-8865.
13. Ďurč, P., Foret, F., Kubáň, P.  
Fast blood plasma separation device for point-of-care applications.  
*Talanta*. 2018, 183(JUN), 55-60. ISSN 0039-9140.
14. Duša, F., Chen, W., Witos, J., Wiedmer, S. K.  
Nanoplasmonic sensing and capillary electrophoresis for fast screening of interactions between phosphatidylcholine biomembranes and surfactants.  
*Langmuir*. 2018, 34(20), 5889-5900. ISSN 0743-7463.
15. Dvořák, M., Seip, K. F., Pedersen-Bjergaard, S., Kubáň, P.  
Semi-automated set-up for exhaustive micro-electromembrane extractions of basic drugs from biological fluids.  
*Analytica Chimica Acta*. 2018, 1005(APR), 34-42. ISSN 0003-2670.
16. Farka, Z., Čunderlová, V., Horáčková, V., Pastucha, M., Mikušová, Z., Hlaváček, A., Skládal, P.  
Prussian blue nanoparticles as a catalytic label in a sandwich nanozyme-linked immunosorbent assay.  
*Analytical Chemistry*. 2018, 90(3), 2348-2354. ISSN 0003-2700.
17. Greguš, M., Ďurč, P., Lačná, J., Foret, F., Kubáň, P.  
Study of various parameters that influence the content of exhaled breath condensate used in the diagnosis of gastroesophageal reflux disease.  
*Hungarian Journal of Industrial Chemistry*. 2018, 46(1), 29-34. ISSN 0133-0276.
18. Horká, M., Karásek, P., Roth, M., Růžička, F.  
Pre-concentration and separation of bacteria by volume coupling electrophoresis on supercritical water-etched fused silica capillary with two segments of different internal diameters and inner surface roughnesses.  
*Analytical and Bioanalytical Chemistry*. 2018, 410(1), 167-175. ISSN 1618-2642.
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Electrophoretic techniques for purification, separation and detection of Kayvirus with subsequent control by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry and microbiological methods.  
*Journal of Chromatography A*. 2018, 1570(OCT), 155-163. ISSN 0021-9673.

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Preparative and capillary isoelectric focusing for detection and identification of *Aspergillus conidia* in complex sample matrices.  
*Journal of Separation Science*. 2018, 41(22), 4203-4211. ISSN 1615-9306..
21. Chen, W., Duša, F., Witos, J., Ruokonen, S. K., Wiedmer, S. K.  
Determination of the main phase transition temperature of phospholipids by nanoplasmonic sensing.  
*Scientific Reports*. 2018, 8(OCT), 14815. ISSN 2045-2322.
22. Jarošíková, A., Ettler, V., Mihaljevič, M., Penížek, V., Matoušek, T., Culka, A., Drahota, P.  
Transformation of arsenic-rich copper smelter flue dust in contrasting soils: A 2-year field experiment.  
*Environmental Pollution*. 2018, 237(JUN), 83-92. ISSN 0269-7491.
23. Karásek, P., Horká, M., Šlais, K., Planeta, J., Roth, M.  
Supercritical water-treated fused silica capillaries in analytical separations: Status review.  
*Journal of Chromatography A*. 2018, 1539(MAR), 1-11. ISSN 0021-9673.
24. Kratzer, J., Musil, S., Marschner, K., Svoboda, M., Matoušek, T., Mester, Z., Sturgeon, R. E., Dědina, J.  
Behavior of selenium hydride in heated quartz tube and dielectric barrier discharge atomizers.  
*Analytica Chimica Acta*. 2018, 1028(OCT), 11-21.
25. Křenková, J., Bobál, P., Partyka, J., Čmelík, R., Foret, F.  
Investigation of a side reaction occurring during N-linked glycan labeling by cationic tags.  
*Journal of Chromatography A*. 2018, 1570(OCT), 67-74. ISSN 0021-9673.
26. Kubáň, P., Hauser, P.C.  
20th anniversary of axial capacitively coupled contactless conductivity detection in capillary electrophoresis.  
*Trac-Trends in Analytical Chemistry*. 2018, 102(MAY), 311-321. ISSN 0165-9936.
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Biosensing based on electrochemical impedance spectroscopy: Influence of the often-ignored molecular charge.  
*Electrochemistry Communications*. 2018, 93(AUG), 183-186. ISSN 1388-2481.
28. Lebedová, J., Nováková, Z., Večeřa, Z., Buchtová, M., Dumková, J., Dočekal, B., Bláhová, L., Mikuška, P., Míšek, I., Hampel, A., Hilsherová, K.  
Impact of acute and subchronic inhalation exposure to PbO nanoparticles on mice.  
*Nanotoxicology*. 2018, 12(4), 290-304. ISSN 1743-5390.
29. Leoni, C., Pokorná, P., Hovorka, J., Masiol, M., Topinka, J., Zhao, Y., Krůmal, K., Cliff, S., Mikuška, P., Hopke, P.K.

- Source Apportionment of Aerosol Particles at a European Air Pollution Hot Spot using Particle Number Size Distributions and Chemical Composition.  
*Environmental Pollution*. 2018, 234(MAR), 145-154. ISSN 0269-7491.
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High power deep UV-LEDs for analytical optical instrumentation.  
*Sensors and Actuators B - Chemical*. 2018, 255(FEB), 1238-1243. ISSN 0925-4005.
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Electrophoretic focusing on inverse electromigration dispersion gradient. The fundamental resolution equation and pressure-assisted performance enhancement.  
*Journal of Chromatography A*. 2018, 1563(AUG), 191-197. ISSN 0021-9673.
32. Marschner, K., Musil, S., Mikšík, I., Dědina, J.  
Investigation of hydride generation from arsenosugars - Is it feasible for speciation analysis?  
*Analytica Chimica Acta*. 2018, (MAY), 8-17. ISSN 0003-2670.
33. Mikuška, P., Čapka, L., Večeřa, Z.  
Aerosol sampler for analysis of fine and ultrafine aerosols.  
*Analytica Chimica Acta*. 2018, 1020(AUG), 123-133. ISSN 0003-2670.
34. Modlitbová, P., Klepárník, K., Farka, Z., Pořízka, P., Skládal, P., Novotný, K., Kaiser, J.  
Time-dependent growth of silica shells on CdTe quantum dots.  
*Nanomaterials*. 2018, 8(6), 439. ISSN 2079-4991.
35. Moravcová, D., Planeta, J., King, A. W. T., Wiedmer, S. K.  
Immobilization of a phosphonium ionic liquid on a silica monolith for hydrophilic interaction chromatography.  
*Journal of Chromatography A*. 2018, 1552(JUN), 53-59. ISSN 0021-9673.
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Silica monolithic capillary columns for helic separations.  
*Hungarian Journal of Industrial Chemistry*. 2018, 46(1), 39-42. ISSN 0133-0276.
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Monolithic silica capillary columns with improved retention and selectivity for amino acids.  
*Separations*. 2018, 5(4), 48. ISSN 2297-8739.
38. Noori, A., Mahbub, P., Dvořák, M., Lucieer, A., Macka, M.  
Radiometric analysis of UV to near infrared LEDs for optical sensing and radiometric measurements in photochemical systems.  
*Sensors and Actuators B - Chemical*. 2018, 262(JUN), 171-179. ISSN 0925-4005.
39. Partyka, J., Křenková, J., Čmelík, R., Foret, F.  
Multi-charged labeling of oligosaccharides and N-linked glycans by hexahistidine-based tags for capillary electrophoresis-mass spectrometry analysis.  
*Journal of Chromatography A*. 2018, 1560(JUL), 91-96. ISSN 0021-9673.

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41. Straka, M., Burhenn, S., Marschner, K., Brandt, S., Marggraf, U., Dědina, J., Franzke, J., Kratzer, J.  
Novel designs of dielectric barrier discharge atomizers for atomic spectrometry. *Spectrochimica Acta Part B: Atomic Spectroscopy*. 2018, 146(AUG), 69-76. ISSN 0584-8547.
42. Strouhalová, D., Benkovská, D., Bobálová, J.  
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Multi-fractional analysis of molecular diffusion in polymer multilayers by FRAP: A new simulation-based approach. *Journal of Physical Chemistry B*. 2018, 122(3), 1323-1333. ISSN 1520-6106.
44. Šalplachta, J., Horká, M., Růžička, F., Šlais, K.  
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Efficient photochemical vapor generation of molybdenum for ICPMS detection. *Analytical Chemistry*. 2018, 90(19), 11688-11695. ISSN 0003-2700.
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Dynamic Proteomic and miRNA Analysis of Polysomes from Isolated Mouse Heart After Langendorff Perfusion. *Jove-Journal of Visualized Experiments*. 2018, 2018(138), e58079. ISSN 1940-087X.
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Upconversion nanoparticle bioconjugates characterized by capillary electrophoresis. *Electrophoresis*. 2018, 39(17), 2246-2252. ISSN 0173-0835.
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*Analytica Chimica Acta*. 2018, 1005(APR), 16-26. ISSN 0003-2670.
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Inter-laboratory study for the certification of trace elements in seawater certified reference materials NASS-7 and CASS-6.  
*Analytical and Bioanalytical Chemistry*. 2018, 410(18), 4469-4479. ISSN 1618-2642
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Trace determination of antimony by hydride generation atomic absorption spectrometry with analyte preconcentration/atomization in a dielectric barrier discharge atomizer.  
*Analytica Chimica Acta*. 2018, 1010(JUN), 11-19. ISSN 0003-2670.
53. Zvěřina, O., Coufalík, P., Barták, M., Petrov, M., Komárek, J.  
The contents and distributions of cadmium, mercury, and lead in *Usnea* antarctica lichens from Solorina Valley, James Ross Island (Antarctica).  
*Environmental Monitoring and Assessment*. 2018, 190(1), 13. ISSN 0167-6369.

## **B. BOOKS AND CHAPTERS IN BOOKS**

## **C. CONFERENCE PROCEEDINGS**

1. Barboříková, H., Mikuška, P., Hegrová, J., Krajčovič, J.  
Oxidační potenciál atmosférického aerosolu jako indikátor tvorby ROS.  
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Urban aerosol: metals as starters of cellular stress?  
In: Dzik, P., ed. 7th Meeting on Chemistry and Life 2018. Book of abstracts. Brno: Vysoké učení technické v Brně, Fakulta chemická, 2018, s. 30-30. ISBN 978-80-214-5488-0.
3. Brtko, J., Strouhalová, D., Toporová, L., Macejová, D., Bobál, P., Otevřel, J., Bobálová, J.  
Proteomic profile in human breast carcinoma MDA-MB-231 cells induced by tributyltin isothiocyanate, the biologically active ligand of nuclear retinoid X receptors.  
In: RICT 2018. Book of Abstracts. Société de Chimie Thérapeutique, 2018, s. 131.
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In: Nuclear Receptors and Biological Networks. Abstract book. EMBO, 2018, s. 101-102.
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Hydride generation of tellurium for AAS and AFS.  
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Impact of post-harvest processing, geographical locality and production year on quality of selected medicinal plants.

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8. Čapka, L., Mikuška, P.  
Stanovení dikarboxylových kyselin v ovzduší pomocí aerosolového vzorkovače.  
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  9. Čmelík, R., Křenková, J., Foret, F.  
Synthesis of new fluorescent tags for efficient glycan analysis.  
In: Hutta, M., Bodor, R., Halko, R., eds. Book of abstracts. 24th International Symposium on Separation Sciences (ISSS 2018). Bratislava: Department of Analytical Chemistry, Faculty of Natural Sciences, Comenius University in Bratislava, 2018, s. 160-160. ISBN 978-80-971179-8-6.
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Synthetic approaches for new labeling tags facilitating glycan analysis.  
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Validation of non-invasive method for diagnostic of cystic fibrosis based on ion ratios determined by CE-C4D.  
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Calcium-dependent reversible aggregation of biomimicking Escherichia coli vesicles evidenced by nanoplasmonic sensing and quartz crystal microbalance.  
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What does it take to concentrate 20 ml sample volume by isotachophoresis?  
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Purification, separation and detection of Kayvirus using electrophoretic techniques.  
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