

**SEZNAM PRACÍ**

**LIST OF PAPERS**

**2001**

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In the List of Papers 2001 the papers are divided into the following sections:

- A** Original Papers
- B** Books, Contributions to Monographs, Reviews
- C** Lectures, Abstracts, Posters
- D** Research Reports
- E** Patents, Patent Applications
- F** Varia
- G** Theses
- H** Papers and Books in Press
- J** Grants

List of Papers 2001 may be requested from:

*Department of Scientific Information  
Institute of Analytical Chemistry  
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Veveří 97  
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## A. ORIGINAL PAPERS

- A1.** Beckers, J. L. - Gebauer, P. - Boček, P.  
System zones in capillary zone electrophoresis.  
*Electrophoresis*, 22 [17] 3648-3658 (2001).
- A2.** Beckers, J. L. - Gebauer, P. - Boček, P.  
Why robust background electrolytes containing multivalent ionic species can fail in capillary zone electrophoresis.  
*Journal of Chromatography A*, 916 [1] 41-49 (2001).
- A3.** Boček, P. - Gebauer, P. - Beckers, J.L.  
Success and failure with phthalate buffers in capillary zone electrophoresis.  
*Electrophoresis*, 22 [6] 1106-1111 (2001).
- A4.** Buzas, Z. - Chang, H. T. - Vieira, N.E. - Yergey, A. L. - Šťastná, M. - Chrambach, A.  
Direct vertical electroelution of protein from a PhastSystem band for mass spectrometric identification at the level of a few picomoles.  
*Proteomics*, 1 [5] 691-698 (2001).
- A5.** Chiari, M. - Cretich, M. - Šťastná, M. - Radko, S. P. - Chrambach, A.  
Rapid capillary coating by epoxy-poly-(dimethylacrylamide): Performance in capillary zone electrophoresis of protein and polystyrene carboxylate.  
*Electrophoresis*, 22 [4] 656-659 (2001).
- A6.** Chmelík, J.  
Experimental determination of elution modes in field-flow fractionation.  
London, *ChebWeb* Inc. 2001.

- A7.** Chmelík, J. - Krumlová, A. - Budinská, M. - Kruml, T. - Psota, V. - Boháčenko, I. - Mazal, P. - Vydrová, H.  
Comparison of size characterization of barley starch granules determined by electron and optical microscopy, low angle laser light scattering and gravitational field-flow fractionation.  
*Journal of the Institute of Brewing*, 107 [1] 11-17 (2001).
- A8.** Chmelík, J. - Planeta, J. - Řehulka, P. - Chmelík Jr., J.  
Determination of molecular mass distribution of silicone oils by supercritical fluid chromatography, matrix-assisted laser desorption ionization time-of-flight mass spectrometry and their off-line combination.  
*Journal of Mass Spectrometry*, 36 [7] 760-770 (2001).
- A9.** Chmelík, J. - Řehulka, P. - Mayrhofer, C. - Allmaier, G.  
Proteomika - nový a rychlý nástroj pro identifikaci odrůd ječmene.  
Proteomics - a new and fast tool for identification of barley varieties.  
*Kvasný průmysl*, 47 [6] 159-163 (2001).
- A10.** Dočekal, B. - Marek, P.  
Investigation of in situ trapping of selenium and arsenic hydrides within a tungsten tube atomiser.  
*Journal of Analytical Atomic Spectrometry*, 16 [8] 831-837 (2001).
- A11.** Felten, C. - Foret, F. - Minarik, M. - Goetzinger, W. - Karger, B. L.  
Automated high-throughput infusion ESI-MS with direct coupling to a microtiter plate.  
*Analytical Chemistry*, 73 [7] 1449-1454 (2001).
- A12.** Horká, M. - Willimann, T. - Blum, M. - Nording, P. - Friedl, Z. - Šlais, K.  
Capillary isoelectric focusing with UV-induced fluorescence detection.  
*Journal of Chromatography A*, 916 [1-2] 65-71 (2001).

- A13.** Jandera, P. - Bunčková, S. - Mihlbachler, K. - Guiochon, G. - Bačkovská, V. - Planeta, J.  
Fitting adsorption isotherms to the distribution data determined using packed micro-columns for high-performance liquid chromatography.  
*Journal of Chromatography A*, 952 [1-2] 19-29 (2001).
- A14.** Janoušková, J. - Budinská, M. - Plocková, J. - Chmelík, J.  
Optimization of experimental conditions for the separation of small and large starch granules by gravitational field-flow fractionation.  
*Journal of Chromatography A*, 914 [1-2] 183-187 (2001).
- A15.** Kabátek, Z. - Klepárník, K. - Gaš, B.  
Effect of temperature on the separation of long DNA fragments in polymer solution.  
*Journal of Chromatography A*, 916 [1-2] 305-310 (2001).
- A16.** Kautz, R. A. - Lacey, M. E. - Wolters, A. M. - Foret, F. - Webb, A. G. - Karger, B. L. - Sweedler, J. V.  
Sample concentration and separation for nanoliter-volume NMR spectroscopy using capillary isotachopheresis.  
*Journal of the American Chemical Society*, 123 [13] 3159-3160 (2001).
- A17.** Klepárník, K. - Malá, Z. - Boček, P.  
Fast separation of DNA sequencing fragments in highly alkaline solutions of linear polyacrylamide using electrophoresis in bare silica capillaries.  
*Electrophoresis*, 22 [4] 783-788 (2001).
- A18.** Kotlík, B. - Sysalová, J. - Kučera, J.  
Zabezpečení jakosti stanovení stopových prvků ve vzorcích prašného aerosolu.  
[Quality assurance of trace elements determination in airborne particulate matter.]  
*Ochrana ovzduší*, - [4] 15-18 (2001).

- A19.** Kvasničková, L. - Glatz, Z. - Štěrbová, H. - Kahle, V. - Slanina, J. - Musil, P.  
Application of capillary electrochromatography using macroporous polyacrylamide columns for the analysis of lignans from seeds of *Schisandra chinensis*.  
*Journal of Chromatography A*, 916 [1-2] 265-271 (2001).
- A20.** Marmiroli, N. - Maestri, E. - Mucchino, C. - Antonioli, G. – Marmiroli, M. - Izquierdo, C. G. - Hernandez, T. - Waclawek, W. - Mocko, A. - Bozym, M. - Nowak, A. - Nowak, J. - Večeřa, Z. - Dočekal, B.  
Fertilia: a European International Cooperation (INCO EU) project for monitoring trace elements in agricultural ecosystems.  
*Minerva Biotechnologica*, 13 [1] 41-54 (2001).
- A21.** Mikuška, P. - Večeřa, Z.  
Determination of nitrate in water by flow-injection analysis.  
*Chemia i Inżynieria Ekologiczna*, 8 [1] 115-120 (2001).
- A22.** Pavelka, S. - Babický, A. - Vobecký, M. - Lener, J.  
Effect of high bromide levels in the organism on the biological half-life iodine in the rat.  
*Biological Trace Element Research*, 82 [1-3] 125-132 (2001).
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High bromide intake affects the accumulation of iodide in the rat thyroid and skin.  
*Biological Trace Element Research*, 82 [1-3] 133-142 (2001).
- A24.** Pešková, J. - Pařízek, P. - Večeřa, Z.  
Wet effluent diffusion technique and determination of C1-C5 alcohols in air.  
*Chemia i Inżynieria Ekologiczna*, 8 [1] 121-127 (2001).
- A25.** Pešková, J. - Pařízek, P. - Večeřa, Z.  
Wet effluent diffusion denuder technique and determination of volatile organic compounds in air. I. Oxo compounds (alcohols and ketones).  
*Journal of Chromatography A*, 918 [1] 153-158 (2001).

- A26.** Plocková, J. - Chmelík, J.  
Different elution modes and field programming in gravitational field-flow fractionation. III. Field programming by flow-rate gradient generated by a programmable pump.  
*Journal of Chromatography A*, 918 [2] 361-370 (2001).
- A27.** Radko, S. P. - Šťastná, M. - Chrambach, A.  
Polydispersity of liposome preparations as a likely source of peak width in capillary zone electrophoresis.  
*Journal of Chromatography A*, 761 [1] 69-75 (2001).
- A28.** Roth, M. - Maag, K. - Schneider, G. M. - Tůma, D.  
Solution properties of C60 and C70 fullerenes and C21 to C40 n-alkanes at infinite dilution in carbon dioxide from supercritical fluid chromatography.  
*Journal of Physical Chemistry B*, 105 [42] 10373-10378 (2001).
- A29.** Šlampová, A. - Jančářová, I. - Smělá, D. - Šlais, K. - Kubáň, V.  
Determination of synthetic colourants in foods by micellar electrokinetic and liquid chromatography.  
*Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, XLIX [3] 91-100 (2001).
- A30.** Šťastná, M. - Radko, S. P. - Chrambach, A.  
Discrimination between peak spreading in capillary zone electrophoresis of proteins due to interaction with the capillary wall and due to protein microheterogeneity.  
*Electrophoresis*, 22 [1] 66-70 (2001).
- A31.** Večeřa, Z.  
Isoprenoidy v atmosféře.  
Isoprenoids in the atmosphere.  
*Chemické Listy*, 95 [3] 157-162 (2001).
- A32.** Večeřa, Z. - Dočekal, B. - Marek, P. - Sánka, M.  
Characterization of sewage sludge amended soils and related crop plants with respect to phytoavailability of heavy metals (Cd, Cr, Cu, Ni, Pb, Zn).  
*Chemia i Inzynieria Ekologiczna*, 8 [2-3] 243-252 (2001).



- A33.** Vespalec, R. - van Leeuwen, H. P.  
Mechanism of streaming current generation by concentration gradients in packed-particle columns.  
*Journal of Colloid and Interface Science*, 244 [1] 66-73 (2001).
- A34.** Zdráhal, Z. - Vermeulen, R. - Claeys, M. - Maenhaut, W. - Guyon, P. - Artaxo, P.  
Characterization of novel di- and tricarboxylic acids in fine tropical aerosols.  
*Journal of Mass Spectrometry*, 36 [4] 403-416 (2001).
- A35.** Zhang, B. - Foret, F. - Karger, B. L.  
High throughput microfabricated CE/ESI-MS: automated sampling from a microwell plate.  
*Analytical Chemistry*, 73 [11] 2675-2681 (2001).
- A36.** Žídková, J. - Chmelík, J.  
Determination of saccharides in fruit juices by capillary electrophoresis and matrix-assisted laser desorption/ionization time-of-flight mass spectrometry.  
*Journal of Mass Spectrometry*, 36 [4] 417-421 (2001).

## **B. BOOKS, CONTRIBUTIONS TO MONO-GRAPHS, REVIEWS**

- B1.** Chmelík, J.  
Elution modes in field-flow fractionation.  
In: *Encyclopedia of Chromatography*. - New York, Marcel Dekker 2001, pp. 303-306.
- B2.** Janák, J.  
Personal recollections, achievements and opinions.  
In: *Chromatography - A Century of Discovery – (1900-2000) - The Bridge to the Sciences and Technology*. - Amsterdam, Elsevier 2001, pp. 263-270.
- B3.** Klepárník, K. - Malá, Z. - Boček, P.  
DNA analysis under highly denaturing conditions in bare fused silica capillaries.  
In: *Capillary electrophoresis of nucleic acids. Methods in molecular biology. Vol. 1.* - Totowa, Humana Press 2001, pp. 239-258.
- B4.** Klepárník, K. - Müller, O. M. - Foret, F.  
Ultra-fast DNA separations using capillary electrophoresis.  
In: *Capillary electrophoresis of nucleic acids. Methods in molecular biology. Vol. 2.* - Totowa, Humana Press 2001, pp. 19-39.
- B5.** Křivánková, L.  
Kombinace kapilární izotachoforézy se zónovou elektroforézou.  
[Combination of capillary isotachopheresis and zone electrophoresis.]  
In: *Elektroanalytické metody*. - Český Těšín, Helán V. 2001, pp. 254-267.
- B6.** Šubert, J. - Šlais, K.  
Progress in the separation of enantiomers of chiral drugs by TLC without their prior derivatization.  
*Pharmazie*, 56 [5] 355-360 (2001).

## C. LECTURES, ABSTRACTS, POSTERS

- C1.** Budinská, M. - Plocková, J. - Janoušková, J. - Krumlová, A. - Chmelík, J.  
Characterization of barley starch granules by gravitational field-flow fractionation.  
16th International Bratislava Meeting on Polymers.  
Workshop/Conference. – Bratislava (SK), September 9-13, 2001.  
In: 16th International Bratislava Meeting on Polymers. Coupled, Hyphenated and Multidimensional Liquid Chromatographic Procedures for Separation of Macromolecules. Book of Abstracts. - Polymer Institute of the Slovak Academy of Sciences, Bratislava 2001, p. 69.  
(poster)
- C2.** Budinská, M. - Plocková, J. - Janoušková, J. - Krumlová, A. - Chmelík, J.  
Stanovení velikosti částic škrobových zrn metodou gravitační field-flow frakcionace, optimalizace systému.  
[Determination of particle size of starch granules by gravitational field-flow fractionation, system optimization.]  
XXXII. Symposium o nových směrech výroby a hodnocení potravin. - Skalský Dvůr (CZ), May 28-30, 2001.  
In: XXXII. Symposium o nových směrech výroby a hodnocení potravin. Sborník souhrnů sdělení. - Praha 2001, p. 55.  
(poster)
- C3.** Chmelík, J. - Wahlund, K. G.  
Development of rapid methods for assessing the quality of starch particles from various cereal species for purposes of agricultural and food industry.  
International Symposium on Characterization of Macromolecules and Particles of Biological Origin. - Brno (CZ), September 3, 2001.  
(lecture)

- C4.** Chmelík, J.  
Experimental determination of elution modes in field-flow fractionation.  
Ninth International Symposium on Field-Flow Fractionation. - Colorado (US), June 26-29, 2001.  
In: FFF 2001. Ninth International Symposium on Field-Flow Fractionation. - Department of Chemistry and Geochemistry, Colorado School of Mines, Golden, Colorado 2001, p. L2.  
(lecture)
- C5.** Chmelík, J. - Budinská, M. - Janoušková, J. - Krumlová, A.  
Comparison of various methods for size characterization of starch granules from barley.  
International Symposium on Characterization of Macromolecules and Particles of Biological Origin. - Brno (CZ), September 3, 2001.  
(lecture)
- C6.** Chmelík, J. - Planeta, J. - Zdráhal, Z. - Řehulka, P. - Chmelík Jr., J.  
Determination of molecular mass distribution of silicone oils by supercritical fluid chromatography, matrix-assisted laser desorption ionization mass spectrometry and their off-line combination.  
18th Informal Meeting on Mass Spectrometry. - Praha (CZ), April 30 - May 4, 2000.  
In: 18th IMMS 2000. Proceedings of the 18th Informal Meeting on Mass Spectrometry. - Ioannes Marcus Marci Spectrometric Society, Prague 2000, p. 55.  
(lecture)
- C7.** Chmelík, J. - Plocková, J. - Matulík, F.  
Hydrodynamic lift force programming in gravitational field-flow fractionation: a tool for fast and efficient separation of particles.  
Ninth International Symposium on Field-Flow Fractionation. - Colorado (US), June 26-29, 2001.  
In: FFF 2001. Ninth International Symposium on Field-Flow Fractionation. - Department of Chemistry and Geochemistry, Colorado School of Mines, Golden, Colorado 2001, p. P15.  
(poster)

- C8.** Chmelík, J. - Řehulka, P. - Čáslavský, J.  
Characterization of polymers by MALDI-TOF MS and several separation techniques.  
16th International Bratislava Meeting on Polymers.  
Workshop/Conference. – Bratislava (SK), September 9-13, 2001.  
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(lecture)
- C9.** Chmelík, J. - Řehulka, P. - Čáslavský, J. - Allmaier, G.  
Characterization of polymers by MALDI-TOF and several separation techniques.  
19th Informal Meeting on Mass Spectrometry. – Noszvaj (HU), April 29 - May 3, 2001.  
In: 19th IMMS. Proceedings of the 19th Informal Meeting on Mass Spectrometry. - Hungarian Academy of Sciences, Budapest 2001, p. 50.  
(poster)
- C10.** Colbeck, I. - Bryant, C. - Drossinos, I. - Havránek, V. - Mikuška, P. - Smolík, J. - Večeřa, Z. - Ždímal, V. - Eleftheriadis, K. - Housiadas, C. - Lazaridis, M.  
Preliminary results from subgrid scale investigations of factors determining the occurrence of ozone and fine particles (SUB-AERO).  
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(poster)
- C11.** Čáslavský, J. - Chmelík, J.  
Characterization of barley starch degradation products by MALDI-TOF mass spectrometry.  
International Symposium on Characterization of Macromolecules and Particles of Biological Origin. - Brno (CZ), September 3, 2001.  
(lecture)

- C12.** Čáslavský, J. - Chmelík, J.  
 Influence of the laser power and analyte concentration on the results in MALDI-TOF MS of oligosaccharides.  
 18th Informal Meeting on Mass Spectrometry. - Praha (CZ), April 30 - May 4, 2000.  
 In: 18th IMMS 2000. Proceedings of the 18th Informal Meeting on Mass Spectrometry. - Ioannes Marcus Marci Spectrometric Society, Prague 2000, p. 26.  
 (poster)
- C13.** Čáslavský, J. - Kotlaříková, P.  
 The application of LDI-TOF MS and HPLC/APCI-ITMS for the analysis of heavy PAHs in environmental samples.  
 19th Informal Meeting on Mass Spectrometry. – Noszvaj (HU), April 29 - May 3, 2001.  
 In: 19th IMMS. Proceedings of the 19th Informal Meeting on Mass Spectrometry. - Hungarian Academy of Sciences, Budapest 2001, pp. 46-47.  
 (poster)
- C14.** Dědina, J. - Matoušek, T. - D'Ulivo, A. - Lampugnani, L. - Selecká, A.  
 Atomization of hydrides for atomic absorption and atomic fluorescence spectroscopy - current state and perspectives.  
 CSI XXXII. Colloquium Spectroscopicum Internationale. - Pretoria (ZA), July 8-13, 2001.  
 In: CSI XXXII. Colloquium Spectroscopicum Internationale. Volume of Abstracts. - South African Spectroscopic Society and South African Chemical Institute, Pretoria 2001, p. MO2-2.  
 (lecture)
- C15.** Dobšík, M. - Mikuška, P. - Večeřa, Z.  
 Kontinuální stanovení stopových koncentrací amoniaku ve vzduchu.  
 [The continuous determination of trace concentrations of ammonia in air.]  
 Ovzduší 2001. - Brno (CZ), May 14-16, 2001.  
 In: Ovzduší 2001. Program a sborník konference. - Vydavatelství Masarykovy univerzity, Brno 2001, pp. 205-208.  
 (lecture)

- C16.** Dočekal, B.  
Direct solid sampling ET-AAS in the analyses of HiTec materials.  
21st Workshop on Atomic Spectroscopy. - Rosos (NO), October  
21-23, 2001.  
(lecture)
- C17.** Dočekal, B.  
Elektrotermické vypařování.  
[Electrothermal vaporization.]  
Spektrometrie s indukčně vázaným plazmatem. - Brno (CZ),  
September 11-13, 2001.  
In: Spektrometrie s indukčně vázaným plazmatem. Sborník  
příspěvků semináře. – Spektroskopická společnost Jana Marka  
Marci, Brno 2001, pp. 45-48.  
(lecture)
- C18.** Dočekal, B.  
In situ trapping of hydride forming elements with tungsten tube  
atomizer.  
21st Workshop on Atomic Spectroscopy. - Rosos (NO), October  
21-23, 2001.  
(lecture)
- C19.** Dočekal, B.  
Základy atomové absorpční spektrometrie.  
[Principles of atomic absorption spectrometry.]  
Automatická spektrometrie. - Žermanická přehrada (CZ), June 11-  
15, 2001.  
(lecture)
- C20.** Dočekal, B.  
Zmlžování suspenzí.  
[Slurry nebulization.]  
Spektrometrie s indukčně vázaným plazmatem. - Brno (CZ),  
September 11-13, 2001.  
In: Spektrometrie s indukčně vázaným plazmatem. Sborník  
příspěvků semináře. – Spektroskopická společnost Jana Marka  
Marci, Brno 2001, pp. 49-53.  
(lecture)

- C21.** Dočekal, B. - Marek, P.  
 In situ trapping of hydride forming elements within a tungsten tube atomizer.  
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- C22.** Dočekal, B. - Marek, P.  
 In situ trapping of hydride-forming elements within a tungsten atomiser.  
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 In: CSI XXXII. Colloquium Spectroscopicum Internationale. Volume of Abstracts. - South African Spectroscopic Society and South African Chemical Institute, Pretoria 2001, p. FR3-4.  
 (lecture)
- C23.** Dočekal, B. - Smetková, V. - Dočekalová, H.  
 Charakterizace půd technikou DGT.  
 [Characterization of soils by the DGT technique.]  
 Anorganická analýza v životním prostředí. - Komorní Lhotka (CZ), November 12-15, 2001.  
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 (lecture)
- C24.** Foret, F.  
 Microchips and MS coupling.  
 SBS 2001. 2nd International Symposium Separations in the BioSciences. - Praha (CZ), September 17-20, 2001.  
 In: SBS 2001. 2nd International Symposium Separations in the BioSciences. Program and Book of Abstracts. - Prague 2001, p. 15.  
 (lecture)



- C25.** Foret, F.  
Miniaturization of the CE/MS interface.  
Proteomics. IBC Conference on Delivering New Routes to Drug Discovery. - Philadelphia (US), May 14-17, 2001.  
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- C26.** Foret, F.  
Miniaturization and mass spectrometric interfacing.  
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(lecture)
- C27.** Gebauer, P. - Beckers, J. L. - Boček, P.  
Success and fiasco with robust electrolyte systems in CZE.  
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- C28.** Gebauer, P. - Křivánková, L. - Pantůčková, P. - Boček, P.  
Impact of sample matrix on quantitation in CZE.  
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In: SBS 2001. 2nd International Symposium Separations in the BioSciences. Program and Book of Abstracts. - Prague 2001, p. 84.  
(poster)

- C29.** Horká, M. - Šlais, K.  
Dynamic modification of proteins for fluorometric detection in CZE.  
SBS 2001. 2nd International Symposium Separations in the BioSciences. - Praha (CZ), September 17-20, 2001.  
In: SBS 2001. 2nd International Symposium Separations in the BioSciences. Program and Book of Abstracts. - Prague 2001, p. 91.  
(poster)
- C30.** Hu, P. - Rejtar, T. - Preisler, J. - Foret, F. - Karger, B. L.  
LC - MALDI/TOF MS analysis of complex peptide mixtures using vacuum deposition interface.  
The 49th ASMS Conference. - Chicago (US), May 27-31, 2001.  
In: Proceedings of the 49th ASMS Conference. - Chicago 2001.  
(poster)
- C31.** Janoušková, J. - Budinská, M. - Plocková, J. - Krumlová, A. - Chmelík, J.  
Optimization of experimental conditions for characterization of barley starch granules by gravitational field-flow fractionation.  
Ninth International Symposium on Field-Flow Fractionation. - Colorado (US), June 26-29, 2001.  
In: FFF 2001. Ninth International Symposium on Field-Flow Fractionation. - Department of Chemistry and Geochemistry, Colorado School of Mines, Golden, Colorado 2001, p. P3.  
(poster)
- C32.** Karásek, P. - Pól, J. - Vejrosta, J.  
Analytické možnosti kontinuální superkritické fluidní extrakce vodných médií.  
[Analytical applications of continuous supercritical fluid extraction of aqueous media.]  
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(lecture)

- C33.** Karásek, P. - Varad'ová-Ostrá, E. - Vejrosta, J. - Fetner, M.  
New instrumentation for pressurized fluid extraction and applications.  
ExTech 2001 "Advances in Extraction Technologies". - Barcelona (ES), September 17-19, 2001.  
In: ExTech 2001 "Advances in Extraction Technologies". - Barcelona 2001, p. 93.  
(poster)
- C34.** Kautz, R. A. - Lacey, M. E. - Wolters, A. M. - Foret, F. - Sweedler, J. V. - Karger, B. L.  
Improved capillary NMR performance using capillary isotachophoretic sample focusing and separation (CITP-NMR).  
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## **D. RESEARCH REPORTS**

**E. PATENTS, PATENT APPLICATION**

## **F. VARIA**

- F1.** Roth, M.  
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- H1.** Barták, P. - Šimánek, V. - Vlčková, M. - Vespalec, R.  
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- H2.** Beckers, J. L. - Boček, P.  
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- H3.** Beckers, J. L. - Boček, P.  
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- H4.** Chmelík, J. - Řehulka, P. - Střelcová, M. - Kubáň, V. - Mayrhofer, C. - Allmaier, G.  
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- H5.** Dobšík, M. - Mikuška, P. - Večeřa, Z.  
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- H6.** Foret, F. - Preisler, J.  
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- H7.** Horká, M. - Šlais, K.  
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- H8.** Karásek, P. - Pól, J. - Planeta, J. - Roth, M. - Vejrosta, J. - Wičar, S.  
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- H9.** Krivánková, L. - Gebauer, P. - Pantůčková, P. - Boček, P.  
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- H11.** Matoušek, T. - Dědina, J. - Selecká, A.  
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- H13.** Minarík, M. - Klepárník, K. - Gilár, M. - Foret, F. - Miller, A. W. - Sosic, Z. - Karger, B. L.  
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Electrophoresis - in press
- H14.** Plocková, J. - Matulík, F. - Chmelík, J.  
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- H15.** Roth, M.  
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Journal of Chemical Thermodynamics - submitted (X/2001)
- H16.** Sadagoff, Y. M. - Dědina, J.  
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- H17.** Sysalová, J. - Spěváčková, V.  
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Fyzika, chemie a informatika pro biologické, ekologické a lékařské aplikace.  
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Výzkum a vývoj metodiky a instrumentace přímé extrakce vodných roztoků nadkritickým oxidem uhličitým.  
[Research and development of the methodology and instrumentation for direct extraction of aqueous matrices by supercritical carbon dioxide.]  
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Využití kontinuální superkritické fluidní extrakce (SFE) oxidem uhličitým a GC-MS v analýze alkoholických nápojů.  
[Use of continuous supercritical fluid extraction with carbon dioxide and GC-MS in analysis of alcoholic beverages.]  
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Využití nové analytické instrumentace ve výzkumu analytických a diagnostických postupů.  
[The use of new analytical instrumentation in research of analytical and diagnostic methods.]  
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## AUTHORS INDEX

[ \* Authors being not members of the Institute ]

- \* Adam, T. C50, J1
- \* Allmaier, G. A9, C9, C63, C64, H4
- \* Antonioli, G. A20
- \* Artaxo, P. A34
- \* Autrata, R. J10
- Babický, A. A22, A23
- \* Bačkovská, V. A13
- \* Barták, P. C78, H1, H18
- \* Beckers, J. L. A1, A2, A3, C27, H2, H3
- \* Blum, M. A12
- Boček, P. A1, A2, A3, A17, B3, C27, C28, C43, C44, C51, H2, H3, H9, J2, J3, J4, J5, J10, J18
- \* Bohačenko, I. A7, J6
- \* Bosák, P. J18
- \* Bozym, M. A20
- Broškovičová, A. C75
- \* Bryant, C. C10
- Budinská, M. A7, A14, C1, C2, C5, C31
- \* Bunčeková, S. A13
- \* Buzas, Z. A4
- \* Cafmeyer, J. C80
- \* Chang, H. T. A4
- \* Chiari, M. A5
- \* Chloupek, O. J11
- Chmelík, J. A6, A7, A8, A9, A14, A26, A36, B1, C1, C2, C3, C4, C5, C6, C7, C8, C9, C11, C12, C31, C54, C56, C62, C63, C64, C82, C83, H4, H14, J6, J11, J12, J13, J14, J15, J16, J17
- \* Chmelík Jr., J. A8, C6
- \* Chrambach, A. A4, A5, A27, A30, C74
- \* Chráska, P. J18
- \* Claeys, M. A34, C80, C81
- \* Colbeck, I. C10, C48, C49

- \* Cretich, M. A5
- Čáslavský, J. C8, C9, C11, C12, C13, J7, J8
- Dědina, J. C14, C52, C65, H10, H11, H16, J9
- \* Dobeš, J. J10
- Dobšík, M. C15, H5
- Dočekal, B. A10, A20, A32, C16, C17, C18, C19, C20, C21, C22, C23, C71
- \* Dočekalová, H. C23, C71
- \* Drossinos, I. C10, C48, C49
- \* D'Ulivo A. C14
- \* Dvořák, V. J10, J18
- \* Eleftheriadis, K. C10, C48, C49
- \* Felten, C. A11
- \* Fetner, M. C33
- Foret, F. A11, A16, A35, B4, C24, C25, C26, C30, C34, C58, C59, C60, C72, H6, H13
- \* Friedecký, T. C50
- \* Friedl, Z. A12, C73
- \* Gabrovská, D. J17
- \* Gaš, B. A15
- Gebauer, P. A1, A2, A3, C27, C28, C43, H9
- \* Gilár, M. H13
- \* Glatz, Z. A19, C46, C47
- \* Goetzinger, W. A11
- \* Goliáš, J. C77, J28
- \* Grüner, B. C66, C67, C68
- \* Guiochon, G. A13
- \* Guyon, P. A34
- \* Havránek, V. C10, C48, C49
- \* Hernandez, T. A20
- \* Hlídková, E. C50
- \* Holý, A. J10
- Horká, M. A12, C29, H7
- \* Horký, M. J19
- \* Housiadas, C. C10, C48, C49
- \* Hu, P. C30, C58, C59, C60
- \* Izquierdo, C. G. A20
- Janák, J. B2
- \* Jančářová, I. A29



* Jandera, P.	A13
Janoušková, J.	A14, C1, C2, C5, C31
* Kabátek, Z.	A15
Kahle, V.	A19, C46, C47
* Kallos, G.	C48, C49
Karásek, P.	C32, C33, C57, C77, H8
* Karger, B. L.	A11, A16, A35, C30, C34, C58, C59, C60, C72, H13
* Kautz, R. A.	A16, C34
Klepárník, K.	A15, A17, B3, B4, C35, C36, C37, C38, C39, C50, C51, H13, J1, J19
Korunová, V.	C40
* Kotlaříková, P.	C13
* Kotlík, B.	A18, C41
* Kozák, L.	J1, J19
* Kruml, T.	A7
Krumlová, A.	A7, C1, C2, C5, C31
* Křivánek, R.	J18
Křivánková, L.	B5, C28, C42, C43, C44, C45, H9, J29
* Kubáň, V.	A29, H4
* Kučera, J.	A18, C41
* Kvasničková, L.	A19, C46, C47
* Lacey, M. E.	A16, C34
* Lampugnani, L.	C14
* Lazaridis, M.	C10, C48, C49
* Lener, J.	A22, A23, J22
* Li-Sucholeiki, X.C.	C72
* Lochman, P.	C50
* Maag, K.	A28, C61
* Macháčková, I.	J18
* Maenhaut, W.	A34, C80, C81, J20
* Maestri, E.	A20
Malá, Z.	A17, B3, C51
* Marek, M.V.	J10
Marek, P.	A10, A32, C21, C22
* Mareš, P.	J18
* Marmioli, M.	A20
* Marmioli, N.	A20
Matoušek, T.	C14, C52, H10, H11
Matulík, F.	C7, C56, H14

- \* Mayrhofer, C. A9, C64, H4
- \* Mazal, P. A7
- \* Mihalopoulos, N. C48
- \* Mihlbachler, K. A13
- Mikuška, P. A21, C10, C15, C48, C49, C53, H5, H12, J21
- \* Miller, A.W. C72, H13
- \* Minarik, M. A11, H13
- \* Mocko, A. A20
- \* Moskovets, E. C58
- \* Mucchino, C. A20
- \* Müller, O.M. B4
- \* Musil, P. A19, C47
- \* Němec, L. J18
- \* Nording, P. A12
- Nováčková, J. C73
- \* Novák, P. C54
- \* Nowak, A. A20
- \* Nowak, J. A20
- \* Očko, M. C44, C45
- \* Oliveira, J. C81
- \* Palouš, J. J18
- Pantůčková, P. C28, C43, H9
- Pařízek, P. A24, A25
- \* Pavelka, S. A22, A23, J22
- Pešková, J. A24, A25, C75
- Planeta, J. A8, A13, C6, C55, C77, H8
- \* Plešek, J. C66, C67
- \* Plicka, J. J17
- Plocková, J. A14, A26, C1, C2, C7, C31, C56, H14
- \* Plzák, Z. C68
- Pól, J. C32, C57, H8
- \* Popelínský, L. C44, C45
- \* Preisler, J. C30, C58, C59, C60, H6
- Příbyla, L. C82, C83
- \* Psota, V. A7, J6
- \* Radko, S. P. A5, A27, A30, C74
- Rejtar, T. C30, C58, C59, C60
- Roth, M. A28, C61, F1, H8, H15, J27, J28
- \* Rubínová, B. J17

* Rudajev, V.	J10
* Rychlovský, P.	J9
Řehulka, P.	A8, A9, C6, C8, C9, C62, C63, C64, H4
* Říhová, B.	J18
* Sadagoff, Y.M.	C65, H16
* Sánka, M.	A32
* Schneider, G.M.	A28, C61
* Sehnal, F.	J18
Selecká, A.	C14, C52, H10, H11
* Sklenička, V.	J18
* Slanina, J.	A19, C46, C47
Slaviček, V.	C66, C67, C68, C69, C70
* Smělá, D.	A29
* Smetková, V.	C23, C71
* Smolík, J.	C10, C48, C49, J18
* Solberg, S.	C48
* Sosic, Z.	C72, H13
* Spěváčková, V.	H17
* Spiridaki, A.	C48
* Stefanou, E.	C48
* Stordal, F.	C48
* Střelcová, M.	H4
* Svenby, T.	C48
* Sweedler, J. V.	A16, C34
Sysalová, J.	A18, C41, H17
* Šedo, A.	H18
* Šimánek, V.	H1, H18
Šlais, K.	A12, A29, B6, C29, C73, H7, J23
* Šlampová, A.	A29
* Šlotová, J.	J10
* Špičák, A.	J18
* Šteiner, I.	J18
Šťastná, M.	A4, A5, A27, A30, C74
* Šťastná, S.	J1
* Štěrbová, H.	A19, C46, C47
* Šubert, J.	B6
* Thilly, W.G.	C72
* Thormann, W.	C43
* Tlaskalová, H.	J17

* Tůma, D.	A28, C61
* Ulbrich, K.	J10
* Ulrichová, J.	H18
* van Leeuwen, H.P.	A33
Varaďová-Ostrá, E.	C33
Večeřa, Z.	A20, A21, A24, A25, A31, A32, C10, C15, C48, C49, C75, H5, H12, J20, J24, J25, J26
Vejrosta, J.	C32, C33, C55, C57, C76, C77, H8, J27, J28
* Vermeylen, R.	A34, C80, C81
Vespalec, R.	A33, C66, C67, C68, C69, C70, C78, C79, H1, H18
* Vičar, J.	H18
* Vieira, N.E.	A4
* Vlačicová, K.	H18
Vlčková, M.	C78, C79, H1
Vobecký, M.	A22, A23, J22
* Vydrová, H.	A7
* Vytrás, K.	J29
* Waclawek, W.	A20
* Wahlund, K.G.	C3
* Webb, A. G.	A16
Wičar, S.	H8
* Willimann, T.	A12
* Wolters, A. M.	A16, C34
* Yergey, A. L.	A4
Zdráhal, Z.	A34, C6, C80, C81
* Zhang, B.	A35
* Ždímal, V.	C10, C48, C49
Žídková, J.	A36, C82, C83