

Capillary Electrophoresis and Electrokinetic Chromatography

1. REVIEWS AND BOOKS

- 874 Altria, K.: Capillary electrophoresis. *Chem. Br.*, 36, No. 11 (2000) 38-41; *C.A.*, 134 (2001) 262937s - a review with 10 refs.
- 875 Beckers, J.L. and Wielders, J.P.M.: (Introduction to capillary electrophoresis: principles, practice, and characteristics). *Ned. Tijdschr. Klin. Chem.*, 25, No. 4 (2000) 210-219; *C.A.*, 135 (2001) 16149x - a review with 18 refs.
- 876 Polson, N.A. and Hayes, M.A.: Microfluidics: controlling fluids in small places. *Anal. Chem.*, 73 (2001) 312A-319A - a review with 61 refs.
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- 878 Takagi, T.: (Capillary). *Seisan to Gijutsu*, 52, No. 2 (2000) 2-4; *C.A.*, 135 (2001) 16148w - a review without refs.
- 879 Watzig, H.: (Capillary electrophoresis, an efficient analytical separation technique). *Anal.-Taschenb.*, 21 (2000) 117-147; *C.A.*, 134 (2001) 289681r - a review with 60 refs.
- 880 Zhou, N.: (Recent advances of liquid chromatography and its related techniques (I)). *Shanghai Huagong*, 26 (2001) 15-18; *C.A.*, 135 (2001) 40031y - a review without refs.
- See also 881, 903, 910, 912, 916, 918, 922, 945, 952, 957, 987, 1002, 1022, 1023, 1025, 1040, 1044, 1045, 1049, 1051, 1052, 1057, 1059, 1060, 1061, 1062, 1065, 1070, 1074, 1076, 1077, 1080, 1086, 1102, 1119, 1149, 1160, 1170.

2. FUNDAMENTALS, THEORY AND GENERAL

2a. General

- 881 Breadmore, M.C. and Haddad, P.R.: Approaches to enhancing the sensitivity of capillary electrophoresis methods for the determination of inorganic and small organic anions. *Electrophoresis (Weinheim)*, 22 (2001) 2464-2489 - a review with 126 refs.
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- 884 Guzman, N.A. and Majors, R.E.: New directions for concentration sensitivity enhancement in CE and microchip technology. *LC-GC Eur.*, 14 (2001) 288-302.

- 885 Iso, K. and Okada, T.: Simultaneous control of electrostatic micellar partition and electroosmotic flow-rate by anion-dominated partition into zwitterionic micelles. *J. Chromatogr. A*, 920 (2001) 317-323.
- 886 Kautz, R.A., Lacey, M.E., Wolters, A.M., Foret, F., Webb, A.G., Karger, B.L. and Sweedler, J.V.: Sample concentration and separation for nanoliter-volume NMR spectroscopy using capillary isotachopheresis. *J. Am. Chem. Soc.*, 123 (2001) 3159-3160; *C.A.*, 134 (2001) 292366x.
- 887 Ross, D., Johnson, T.J. and Locascio, L.E.: Imaging of electroosmotic flow in plastic microchannels. *Anal. Chem.*, 73 (2001) 2509-2515.
- 888 Schmitt-Kopplin, Ph., Menzinger, F., Freitag, D. and Kettrup, A.: Improving the use of CE in a chromatographer's world. *LC-GC Eur.*, 14 (2001) 384-388.
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See also 893, 911.

2b. Thermodynamics and theoretical relationships

- 893 Cao, C.-X., Zhou, S.-L., Qian, Y.-T., He, Y.-Z., Yang, L., Qu, Q.-S. and Chen, W.-K.: Experimental investigation on moving chemical reaction boundary theory for weak-acid-strong-base system with background electrolyte KCl in large concentration. *J. Chromatogr. A*, 922 (2001) 283-292.

See also 889, 920, 933, 1161.

2c. Relationship between structure and electrophoretic behaviour

See 919.

2d. Measurement of physico-chemical and related values

- 894 Idei, M., Kiss, E., Hollosy, F., Tamas, B., Orfi, L., Seprodi, J., Meszaros, G. and Keri, G.: Calculation of phase residence times in micellar electrokinetic chromatography. *J. Liq. Chromatogr. Relat. Technol.*, 24 (2001) 303-315.
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See also 1063, 1095.

3. GENERAL TECHNIQUES

3a. Apparatus and accessories

- 898 Zhou, H., Holland, L.A. and Liu, P.: An integrated electrochemical capillary liquid chromatography - dual microelectrode system for bromine based reaction detection. *Analyst (Cambridge)*, 126 (2001) 1252-1256.

See also 883, 952, 1087.

3b. Detectors and detection procedures

- 899 Arora, A., Eijkel, E.C.T., Morf, W.E. and Manz, A.: A wireless electrochemiluminescence detector applied to direct and indirect detection for electrophoresis on a microfabricated glass device. *Anal. Chem.*, 73 (2001) 3282-3288.
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See also 953, 965, 980, 993, 996, 998, 1014, 1015, 1020, 1028, 1088, 1097, 1122, 1168, 1173.

3c. Stabilization media for electrophoresis

- 907 All Rafai, R., Demesmay, C., Cretier, G. and Rocca, J.L.: Chromatographic behavior of macroporous particles in electroosmotically and pressure driven liquid chromatography. *Chromatographia*, 53 (2001) 691-696.
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- 909 Chen, T.-S. and Liu, C.-Y.: Histidine-functionalized silica and its copper complex as stationary phases for capillary electrochromatography. *Electrophoresis (Weinheim)*, 22 (2001) 2606-2615.
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- 912 Liu, Y. and Rill, R.L.: DNA separation by capillary electrophoresis in lyotropic polymer liquid crystals. *Methods Mol. Biol. (Totowa)*, 162(Capillary Electrophoresis of Nucleic Acids, Volume 1) (2001) 203-213; *C.A.*, 135 (2001) 2330n - a review with 36 refs.
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See also 925, 927, 928, 933, 978, 1021, 1049, 1076.

3d. Quantitative analysis

See 1007, 1048, 1059, 1064.

3e. Preparative scale electrophoresis

- 917 Glukhovskij, P. and Vigh, G.: Improved preparative-scale, continuous, free-flow electrophoretic separation of the enantiomers of terbutaline utilizing equal-but-opposite enantiomer mobilities. *Electrophoresis (Weinheim)*, 22 (2001) 2639-2645.

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See also 1082.

3f. *Programmed voltage and buffer gradients*

See 936.

4. SPECIAL TECHNIQUES

4a. *Automation*

See 903.

4b. *Computerization and modelling*

- 919 Fox, S.B., Culha, M. and Sepaniak, M.J.: Development of a grid search molecular strategy to study elution behavior in cyclodextrin modified capillary electrophoresis. *J. Liq. Chromatogr. Relat. Technol.*, 24 (2001) 1209-1228.

- 920 Stoyanov, A.V., Stozhkova, I.N. and Righetti, P.G.: Acid-base equilibria of polyvalent electrolytes and theoretical description of polyelectrolyte behavior in electrokinetic separations. *J. Biochem. Biophys. Methods*, 46 (2000) 21-30; C.A., 134 (2001) 153200a.

- 921 Trapp, O. and Schurig, V.: ChromWin - A computer program for the determination of enantiomerization barriers in dynamic chromatography. *Comput. Chem. (Oxford)*, 25 (2001) 187-195; C.A., 134 (2001) 295516g.

4c. *Combination with other physicochemical techniques, (MS, IR etc.)*

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See also 886, 892, 901, 926, 951, 955, 966, 977, 1008, 1015, 1018, 1028, 1034, 1041, 1058, 1071, 1099, 1128, 1130, 1131, 1133, 1152, 1165, 1173.

4d. *Affinity electrophoresis*

See 1095.

4e. *Capillary electrochromatography*

- 925 Chen, Z. and Hobo, T.: Chemically L-phenylalaninamide-modified monolithic silica column prepared by a sol-gel process for enantioseparation of dansyl amino acids by ligand exchange - capillary electrochromatography. *Anal. Chem.*, 73 (2001) 3348-3357.

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- 932 Schweitz, L., Andersson, L.I. and Nilsson, S.: Rapid electrochromatographic enantiomer separations on short molecularly imprinted polymer monoliths. *Anal. Chim. Acta*, 435 (2001) 43-47.

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See also 882, 898, 908, 909, 947, 950, 962, 984, 986, 1026, 1036, 1100, 1112, 1174.

4f. *Capillary isotachopheresis and sample stacking*

- 937 Clerc, M. and Knauer, H.: (Ionic separation apart from sample preparation). *CLB Chem. Labor Biotech.*, 52 (2001) 7-9; *C.A.*, 134 (2001) 289684u.
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See also 886, 924, 1012, 1018, 1024, 1025, 1068, 1124, 1145, 1153.

4g. *Enantiomers, separation*

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- 948 Yang, W.-C., Yu, A.-M., Yu, X.-D. and Chen, H.-Y.: Modeling and optimization of the chiral selectivity of basic analytes in chiral capillary electrophoresis with negatively charged cyclodextrins using electrochemical detection. *Electrophoresis (Weinheim)*, 22 (2001) 2025-2031.

See also 917, 921, 925, 932, 934, 978, 984, 988, 992, 999, 1013, 1016, 1113, 1123, 1126, 1128, 1157.

4h. *Two dimensional electrophoresis*

See 905, 1026, 1027, 1036, 1050.

4i. *Other special techniques*

- 949 Fuh, C.B., Lai, J.Z. and Chang, C.M.: Particle magnetic susceptibility determination using analytical split-flow thin fractionation. *J. Chromatogr. A*, 923 (2001) 263-270.
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- 953 Raisi, F., Belgrader, P., Borkholder, D.A., Herr, A.E., Kintz, G.J., Pourhamadi, F., Taylor, M.T. and Northrup, M.A.: Microchip isoelectric focusing using a miniature scanning detection system. *Electrophoresis (Weinheim)*, 22 (2001) 2291-2295.
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- 958 Zhou, X.-F., Burt, J.P.H., Talary, M.S., Goater, A.D. and Pethig, R.: Development of biofactory-on-a-chip technology. *Proc. SPIE-Int. Soc. Opt. Eng.*, 4177 (Microfluidic Devices and Systems III) (2000) 241-250; *C.A.*, 134 (2001) 307395g.

See also 876, 883, 887, 899, 906, 932, 988, 1009, 1018, 1048, 1050, 1078, 1084, 1086, 1087, 1093, 1147.

5. **HYDROCARBONS AND HALOGEN DERIVATIVES**5b. *Cyclic hydrocarbons, fullerenes*

- 959 Takagai, Y. and Igarashi, S.: UV-detection capillary electrophoresis for benzo(a)pyrene and pyrene following a two-step concentration system using homogenous liquid-liquid extraction and a sweeping method. *Analyst (Cambridge)*, 126 (2001) 551-552.

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See also 919, 927, 1098.

7. PHENOLS

See 919, 981.

8. SUBSTANCES CONTAINING HETEROCYCLIC OXYGEN

8a. Flavonoids

See 986.

9. OXO COMPOUNDS, ETHERS, EPOXIDES AND QUINONES

- 961 Fung, Y.-S. and Lau, K.-M.: Determination of oxoanions in river water by capillary electrophoresis. *Electrophoresis (Weinheim)*, 22 (2001) 2251-2259.
- 962 Fung, Y.-S. and Long, Y.: Determination of carbonyl compounds in air by electrochromatography. *Electrophoresis (Weinheim)*, 22 (2001) 2270-2277.
- 963 Lin, C.-E. and Chen, M.-J.: Separation and selectivity of benzophenones in micellar electrokinetic chromatography using sodium dodecyl sulfate micelles or sodium cholate modified mixed micelles. *J. Chromatogr. A*, 923 (2001) 241-248.

See also 911, 931.

10. CARBOHYDRATES

10a. Mono and oligosaccharides. Structural studies

- 964 Bennani, N. and Fabre, H.: Performances of a capillary electrophoresis method for the determination of meso-inositol in a tablet formulation. *Anal. Chim. Acta*, 434 (2001) 67-73.
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- 967 Mastroggianni, O., Lamari, F., Syrokou, A., Militsopoulou, M., Hjerpe, A. and Karamanos, N.K.: Microemulsion electrokinetic capillary chromatography of sulfated disaccharides derived from glycosaminoglycans. *Electrophoresis (Weinheim)*, 22 (2001) 2743-2745.

- 968 Mitropoulou, T.N., Lamari, F., Syrokou, A., Hjerpe, A. and Karamanos, N.K.: Identification of oligomeric domains within dermatan sulfate chains using differential enzymic treatments, derivatization with 2-aminoacridone and capillary electrophoresis. *Electrophoresis (Weinheim)*, 22 (2001) 2458-2463.

- 969 Shen, Z., Warren, C.D. and Newburg, D.S.: Resolution of structural isomers of sialylated oligosaccharides by capillary electrophoresis. *J. Chromatogr. A*, 921 (2001) 315-321.

See also 892, 976.

10b. Polysaccharides, mucopolysaccharides, lipopolysaccharides

- 970 Ban, E., Choi, O.-K., Ryu, J.-C. and Yoo, Y.S.: Capillary electrophoresis of high-molecular chitosan: The natural carbohydrate biopolymer. *Electrophoresis (Weinheim)*, 22 (2001) 2217-2221.
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- 973 Kim, Y.S., Thanawiroon, C., Bazin, H.G., Kerns, R.J. and Linhardt, R.J.: Enzymatic preparation of heparin disaccharides as building blocks in glycosaminoglycan synthesis. *Prepar. Biochem. Biotechnol.*, 31 (2001) 113-124.

See also 967.

10c. Glycoproteins and their constituents

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13e. Bile acids and alcohols

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