Cornelius F Ivory

List of Publications by Year
in descending order

117	2,300	218381	253896
papers	citations	26 h-index	43 g-index

118	118	118	1625
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Thermal model of capillary electrophoresis and a method for counteracting thermal band broadening. Journal of Chromatography A, 1990, 516, 191-210.	1.8	144
2	Isoelectric Focusing in a Poly(dimethylsiloxane) Microfluidic Chip. Analytical Chemistry, 2005, 77, 1303-1309.	3.2	122
3	Focusing proteins in an electric field gradient. Journal of Chromatography A, 1996, 726, 229-236.	1.8	91
4	Digitally Controlled Electrophoretic Focusing. Analytical Chemistry, 1999, 71, 1628-1632.	3.2	80
5	Multistage Isoelectric Focusing in a Polymeric Microfluidic Chip. Analytical Chemistry, 2005, 77, 7878-7886.	3.2	75
6	Microfluidic isotachophoresis: A review. Electrophoresis, 2013, 34, 1493-1509.	1.3	71
7	Modeling biofilms with dual extracellular electron transfer mechanisms. Physical Chemistry Chemical Physics, 2013, 15, 19262.	1.3	70
8	10â€‰000-fold concentration increase of the biomarker cardiac troponin I in a reducing union microfluidic chip using cationic isotachophoresis. Lab on A Chip, 2011, 11, 890.	3.1	67
9	Protein Focusing in a Conductivity Gradient. Biotechnology Progress, 1998, 14, 300-309.	1.3	64
10	A Brief Review of Alternative Electrofocusing Techniques. Separation Science and Technology, 2000, 35, 1777-1793.	1.3	62
11	Microchannel protein separation by electric field gradient focusing. Lab on A Chip, 2005, 5, 587.	3.1	57
12	Field Gradient Focusing: A Novel Method for Protein Separation. Biotechnology Progress, 1996, 12, 822-836.	1.3	56
13	Modeling and simulation of IEF in 2-D microgeometries. Electrophoresis, 2007, 28, 572-586.	1.3	51
14	Experimentally and theoretically observed native pH shifts in a nanochannel array. Lab on A Chip, 2009, 9, 219-231.	3.1	45
15	Isotachophoresis of proteins in a networked microfluidic chip: Experiment and 2-D simulation. Electrophoresis, 2007, 28, 1138-1145.	1.3	41
16	Monitoring FET flow control and wall adsorption of charged fluorescent dye molecules in nanochannels integrated into a multiple internal reflection infrared waveguide. Lab on A Chip, 2008, 8, 251-258.	3.1	41
17	Simulation of the ozone pretreatment of wheat straw. Bioresource Technology, 2015, 196, 78-87.	4.8	41
18	Molecular rheotaxis directs DNA migration and concentration against a pressure-driven flow. Nature Communications, 2017, 8, 1213.	5.8	41

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19	Effect of wallâ€“molecule interactions on electrokinetic transport of charged molecules in nanofluidic channels during FET flow control. Lab on A Chip, 2009, 9, 1601.	3.1	38
20	The Prospects for Large-Scale Electrophoresis. Separation Science and Technology, 1988, 23, 875-912.	1.3	36
21	Effects of ampholyte concentration on protein behavior in onâ€chip isoelectric focusing. Electrophoresis, 2008, 29, 1026-1035.	1.3	36
22	10â€‰000â€fold concentration increase in proteins in a cascade microchip using anionic ITP by a 3â€Ð numerical simulation with experimental results. Electrophoresis, 2011, 32, 550-562.	1.3	34
23	Several new electrofocusing techniques. Electrophoresis, 2007, 28, 15-25.	1.3	33
24	Preconcentration and detection of the phosphorylated forms of cardiac troponin I in a cascade microchip by cationic isotachophoresis. Lab on A Chip, 2011, 11, 3793.	3.1	30
25	Continuous counteracting chromatographic electrophoresis. Biotechnology Progress, 1990, 6, 21-32.	1.3	28
26	Direct current dielectrophoretic simulation of proteins using an array of circular insulating posts. Electrophoresis, 2011, 32, 2323-2330.	1.3	28
27	Paper-based ITP technology: An application to specific cancer-derived exosome detection and analysis. Biosensors and Bioelectronics, 2020, 164, 112292.	5.3	27
28	Finite-Volume Methods for Isotachophoretic Separation in Microchannels. Numerical Heat Transfer; Part A: Applications, 2007, 52, 441-461.	1.2	26
29	Continuous fractionation of enantiomer pairs in free solution using an electrophoretic analog of simulated moving bed chromatography. Journal of Chromatography A, 2002, 953, 263-277.	1.8	24
30	Continuous flow electrophoresis, the crescent phenomena revisited. Journal of Chromatography A, 1980, 195, 165-179.	1.8	23
31	High Resolution Continuous Flow Electrophoresis. Biotechnology Progress, 1985, 1, 60-68.	1.3	22
32	Transient electroosmosis: The momentum transfer coefficient. Journal of Colloid and Interface Science, 1983, 96, 296-298.	5.0	20
33	Transient electrophoresis of a dielectric sphere. Journal of Colloid and Interface Science, 1984, 100, 239-249.	5.0	19
34	Electroosmosis with step changes in zeta potential in microchannels. AICHE Journal, 2007, 53, 2521-2533.	1.8	19
35	Impact of leakage current and electrolysis on FET flow control and pH changes in nanofluidic channels. Lab on A Chip, 2009, 9, 1609.	3.1	18
36	Correlating inter-particle forces and particle shape to shear-induced aggregation/fragmentation and rheology for dilute anisotropic particle suspensions: A complementary study via capillary rheometry and in-situ small and ultra-small angle X-ray scattering. Journal of Colloid and Interface Science, 2020, 576, 47-58.	5.0	18

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37	Recycle continuous-flow electrophoresis: Zero-diffusion theory. AICHE Journal, 1988, 34, 474-482.	1.8	17
38	Preparative free-flow electrofocusing in a vortex-stabilized annulus. Electrophoresis, 2004, 25, 360-374.	1.3	17
39	Characterization of voltage degradation in dynamic field gradient focusing. Electrophoresis, 2008, 29, 1013-1025.	1.3	17
40	Cationic isotachophoresis separation of the biomarker cardiac troponin I from a highâ€abundance contaminant, serum albumin. Electrophoresis, 2014, 35, 2029-2038.	1.3	17
41	Enhanced Fluorescence Anisotropy Assay for Human Cardiac Troponin I and T Detection. Journal of Fluorescence, 2011, 21, 2101-2110.	1.3	16
42	Modified Pyroprobe Captive Sample Reactor: Characterization of Reactor and Cellulose Pyrolysis at Vacuum and Atmospheric Pressures. Industrial & Engineering Chemistry Research, 2017, 56, 5185-5200.	1.8	16
43	A study of the Coriolis effect on the fluid flow profile in a centrifugal bioreactor. Biotechnology Progress, 2009, 25, 1025-1034.	1.3	15
44	Development of a membraneâ€less dynamic field gradient focusing device for the separation of lowâ€molecularâ€weight molecules. Electrophoresis, 2010, 31, 902-909.	1.3	15
45	Temperature profiles in plane poiseuille flow with electrical heat generation. Chemical Engineering Science, 1984, 39, 851-857.	1.9	14
46	Preparative isoelectric focusing of proteins using binary buffers in a vortex-stabilized, free-flow apparatus. Electrophoresis, 2004, 25, 1748-1757.	1.3	14
47	Peak compression and resolution for electrophoretic separations in diverging microchannels. Electrophoresis, 2004, 25, 3694-3704.	1.3	14
48	Effects of Ampholyte Dissociation Constants on Protein Separation in On-Chip Isoelectric Focusing. Journal of Nanoscience and Nanotechnology, 2008, 8, 3719-3728.	0.9	14
49	Dispersion of protein bands in a horseshoe microchannel during IEF. Electrophoresis, 2009, 30, 723-731.	1.3	14
50	A new fabrication technique to form complex polymethylmethacrylate microchannel for bioseparation. Biomicrofluidics, 2012, 6, 016503.	1.2	14
51	ITP of lanthanides in microfluidic PMMA chip. Electrophoresis, 2014, 35, 646-653.	1.3	14
52	Protein separation using preparativeâ€scale dynamic field gradient focusing. Electrophoresis, 2008, 29, 2820-2827.	1.3	13
53	Design and Construction of a Preparative-Scale Dynamic Field Gradient Focusing Apparatus. Biotechnology Progress, 2008, 24, 444-451.	1.3	13
54	Simultaneous Separation of Negatively and Positively Charged Species in Dynamic Field Gradient Focusing Using a Dual Polarity Electric Field. Analytical Chemistry, 2009, 81, 8236-8243.	3.2	13

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55	The combined flux technique for diffusionâ€"reaction problems in partial equilibrium: Application to the facilitated transport of carbon dioxide in aqueous bicarbonate solutions. Chemical Engineering Science, 1986, 41, 567-578.	1.9	12
56	Automated Electric Valve for Electrokinetic Separation in a Networked Microfluidic Chip. Analytical Chemistry, 2007, 79, 1456-1465.	3.2	12
57	Increasing the scale of true moving bed electrophoretic separations using filtration to reduce solvent volumetric flows between sections II and III. Journal of Chromatography A, 2007, 1138, 291-300.	1.8	12
58	Design and Finite Element Model of a Microfluidic Platform with Removable Electrodes for Electrochemical Analysis. Journal of the Electrochemical Society, 2019, 166, B125-B132.	1.3	12
59	Assessing the scalability of dynamic field gradient focusing by linear modeling. Journal of Separation Science, 2008, 31, 341-352.	1.3	11
60	Influence of the semiâ€permeable membrane on the performance of dynamic field gradient focusing. Electrophoresis, 2010, 31, 893-901.	1.3	11
61	Electromagnetic Stabilization of Weakly Conducting Fluids. Science, 1987, 238, 58-61.	6.0	10
62	Development of a Segmented Model for a Continuous Electrophoretic Moving Bed Enantiomer Separation. Biotechnology Progress, 2003, 19, 1703-1712.	1.3	10
63	Electrophoretic field gradient focusing: An investigation of the experimental parameters. Electrophoresis, 2008, 29, 457-465.	1.3	10
64	Fluid flow through a high cell density fluidizedâ€bed during centrifugal bioreactor culture. Biotechnology Progress, 2010, 26, 1014-1023.	1.3	10
65	Unveiling the Interfacial and Structural Heterogeneity of Ti₃C₂T_x MXene Etched with CoF₂/HCl by Integrated in Situ Thermal Analysis. ACS Applied Materials & Interfaces, 2021, 13, 52125-52133.	4.0	10
66	THE INFLUENCE OF DIFFUSION ON ELUTION PROFILES IN THE PHILPOT- HARWELL ELECTROPHORETIC SEPARATOR. Chemical Engineering Communications, 1987, 54, 301-331.	1.5	9
67	A hybrid centrifuge rotor for continuous bioprocessing. Biotechnology Progress, 1995, 11, 21-32.	1.3	9
68	Microchip countercurrent electroseparation. Lab on A Chip, 2003, 3, 266.	3.1	9
69	Isotachophoresis with counterflow in an open capillary: Computer simulation and experimental validation. Journal of Separation Science, 2013, 36, 1986-1995.	1.3	9
70	Prediction of the location of stationary steadyâ€state zone positions in counterflow isotachophoresis performed under constant voltage in a vortexâ€stabilized annular column. Journal of Separation Science, 2007, 30, 3255-3261.	1.3	8
71	Stacking in a continuous sample flow interface in capillary electrophoresis. Journal of Chromatography A, 2015, 1408, 236-242.	1.8	8
72	Immunobindingâ€induced alteration in the electrophoretic mobility of proteins: An approach to studying the preconcentration of an acidic protein under cationic isotachophoresis. Electrophoresis, 2019, 40, 1314-1321.	1.3	8

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73	Electrical pumping in carrier-mediated membrane transport. Journal of Membrane Science, 1985, 24, 309-323.	4.1	7
74	The development of recycle zone electrophoresis. Electrophoresis, 1990, 11, 919-926.	1.3	7
75	Buffer salt effect on pH in the interior of an anion exchange resin. Journal of Colloid and Interface Science, 2006, 302, 560-567.	5.0	7
76	A pK determination method for proteins from titration curves using principle component analysis. AICHE Journal, 2008, 54, 2238-2249.	1.8	7
77	Parallel implementation of finite volume based method for isoelectric focusing. Journal of Mechanical Science and Technology, 2009, 23, 3169-3178.	0.7	7
78	<scp>O</scp>neâ€dimensional simulation of lanthanide isotachophoresis using <scp>COMSOL</scp>. Electrophoresis, 2012, 33, 880-888.	1.3	7
79	Surface isoelectric focusing (sIEF) with carrier ampholyte pH gradient. Electrophoresis, 2017, 38, 2565-2575.	1.3	7
80	Electrochemical Preconcentration Mechanism of Trivalent Lanthanum. Journal of the Electrochemical Society, 2018, 165, D654-D661.	1.3	7
81	Flow Injection Electrochemical Quartz Crystal Microbalance with ICP-OES Detection: Recovery of Silver by Electrodeposition with Redox Replacement in a Flow Cell. Journal of the Electrochemical Society, 2021, 168, 056518.	1.3	7
82	Continuous flow electrophoresis: The crescent phenomena revisited Part II: Nonisothermal effects. Electrophoresis, 1981, 2, 31-39.	1.3	6
83	Counterflow isotachophoresis in a monolithic column. Journal of Separation Science, 2014, 37, 2395-2402.	1.3	6
84	A derivation of the particle size weighting factor in the measurement of rate coefficients. Chemical Engineering Science, 1981, 36, 1035-1038.	1.9	5
85	The effect of ac fields on carrier-mediated transport. Journal of Membrane Science, 1985, 23, 241-256.	4.1	5
86	Continuous voltage gradients and their application to true moving bed electrophoresis. Journal of Chromatography A, 2006, 1129, 119-128.	1.8	5
87	Effects of increased voltage on resolution in preparative isoelectric focusing of myoglobin varia. Electrophoresis, 2006, 27, 3325-3331.	1.3	5
88	Nonlinear modeling of protein separation in a preparativeâ€scale dynamic field gradient focusing instrument. AICHE Journal, 2009, 55, 63-74.	1.8	5
89	Taylor dispersion in equilibrium gradient focusing at steady state. Electrophoresis, 2015, 36, 662-667.	1.3	5
90	Design and optimization of a fusedâ€silica microfluidic device for separation of trivalent lanthanides by isotachophoresis. Electrophoresis, 2019, 40, 2531-2540.	1.3	5

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91	High-Resolution, High-Yield Continuous-Flow Electrophoresis. ACS Symposium Series, 1986, , 169-184.	0.5	4
92	Temperature profiles in the thermal entrance region for laminar flow in an electrically heated slit. Chemical Engineering Science, 2000, 55, 601-613.	1.9	4
93	Meetings Diary: Electrophoresis 13/2008. Electrophoresis, 2008, 29, 2928-2928.	1.3	4
94	Error incurred in gel permeation chromatography by using the elution peak volume in lieu of the elution mean volumes in the calculation of Kav. Journal of Chromatography A, 1980, 198, 354-356.	1.8	3
95	Electrochemical coupling in carrier-mediated membrane transport. Journal of Membrane Science, 1986, 29, 49-67.	4.1	3
96	Modeling Two-Component Isoelectric Focusing Buffers in a Vortex-Stabilized Electrophoresis Apparatus. Biotechnology Progress, 2004, 20, 193-199.	1.3	3
97	13 Alternative electrofocusing methods. Separation Science and Technology, 2005, 7, 297-319.	0.0	3
98	Electrophoretic field gradient focusing with on-column detection by fluorescence quenching. Analyst, The, 2009, 134, 226-229.	1.7	3
99	Preconcentration mechanism of trivalent lanthanum on eQCM electrodes in the presence of Î±-hydroxy isobutyric acid. Journal of Electroanalytical Chemistry, 2020, 857, 113731.	1.9	3
100	THE MEASUREMENT OF RATE COEFFICIENTS IN SLURRY REACTORS. Chemical Engineering Communications, 1981, 10, 293-305.	1.5	2
101	Scale-Up of the Free Flow Electrophoresis Device. , 1984, , 293-300.		2
102	True moving bed electrophoresis using stepped electric field gradients. Electrophoresis, 2007, 28, 1477-1487.	1.3	2
103	Protein Separation via Affinity-Mediated Membrane Transport. ACS Symposium Series, 1990, , 188-211.	0.5	1
104	Analytical, Preparative, and Large-Scale Zone Electrophoresis. ACS Symposium Series, 1990, , 210-243.	0.5	1
105	On-Line Optical Fiber Detection in a Preparative Free-Flow Electrofocusing Apparatus. Biotechnology Progress, 2006, 22, 842-846.	1.3	1
106	Preconcentration of Cardiac Proteins in a Cascade Microchip. , 2011, , .		1
107	Editorial. Electrophoresis, 2016, 37, 691-691.	1.3	1
108	Checking transfer efficiency and equal loading via qualitative optical way in western blotting. Electrophoresis, 2017, 38, 2786-2790.	1.3	1

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109	Electrochemical precipitation of neptunium with a micro electrochemical quartz crystal microbalance. Journal of Radioanalytical and Nuclear Chemistry, 2020, 324, 1021-1030.	0.7	1
110	ELECTRICALLY DRIVEN SEPARATION PROCESSES: ANALYTICAL AND PREPARATIVE METHODS*. Separation and Purification Reviews, 2001, 30, 265-311.	0.8	0
111	Band Deformation at a T-Junction While Electrofocusing in a Dog-Leg Microchannel. , 2004, , 361.		0
112	Focusing of Proteins in a Horseshoe Microchannel. , 2008, , .		0
113	Modeling and Simulation of pH Dependent Isotachophoresis. , 2009, , .		0
114	Preconcentration of Cardiac Proteins in a Microfluidic Device. , 2009, , .		0
115	Multistage Isoelectric Focusing: A Novel On-Chip Bio-Separation Technique. , 2005, , .		0
116	An Automated Valve for Dispersion Control in On-Chip Electrophoresis. , 2007, , .		0
117	Modeling and Simulation of Isotachophoresis for Chemical Separation of Charged Species. , 2007, , .		0