Brian J Kirby

List of Publications by Year
in descending order

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Version: 2024-02-01

82	6,355	87723 38	74018 75
papers	citations	h-index	g-index

87	87	87	8153
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Zeta potential of microfluidic substrates: 1. Theory, experimental techniques, and effects on separations. Electrophoresis, 2004, 25, 187-202.	1.3	834
2	Zeta potential of microfluidic substrates: 2. Data for polymers. Electrophoresis, 2004, 25, 203-213.	1.3	403
3	Capture of circulating tumor cells from whole blood of prostate cancer patients using geometrically enhanced differential immunocapture (GEDI) and a prostate-specific antibody. Lab on A Chip, 2010, 10, 27-29.	3.1	346
4	Measurements and modeling of acetone laser-induced fluorescence with implications for temperature-imaging diagnostics. Applied Optics, 1998, 37, 4963.	2.1	228
5	Detection of Circulating Pancreas Epithelial Cells in Patients With Pancreatic Cystic Lesions. Gastroenterology, 2014, 146, 647-651.	0.6	191
6	Functional Characterization of Circulating Tumor Cells with a Prostate-Cancer-Specific Microfluidic Device. PLoS ONE, 2012, 7, e35976.	1.1	185
7	Low-Light-Level Optical Interactions with Rubidium Vapor in a Photonic Band-Gap Fiber. Physical Review Letters, 2006, 97, 023603.	2.9	173
8	Rare cell capture in microfluidic devices. Chemical Engineering Science, 2011, 66, 1508-1522.	1.9	171
9	Zeta potential and electroosmotic mobility in microfluidic devices fabricated from hydrophobic polymers: 1. The origins of charge. Electrophoresis, 2008, 29, 1092-1101.	1.3	170
10	Methods for Photocrosslinking Alginate Hydrogel Scaffolds with High Cell Viability. Tissue Engineering - Part C: Methods, 2011, 17, 173-179.	1.1	167
11	Electrophoretic Concentration of Proteins at Laser-Patterned Nanoporous Membranes in Microchips. Analytical Chemistry, 2004, 76, 4589-4592.	3.2	154
12	Continuous-Flow Particle Separation by 3D Insulative Dielectrophoresis Using Coherently Shaped, dc-Biased, ac Electric Fields. Analytical Chemistry, 2007, 79, 7291-7300.	3.2	154
13	Microfluidic devices for terahertz spectroscopy of biomolecules. Optics Express, 2008, 16, 1577.	1.7	110
14	Microchip Dialysis of Proteins Using in Situ Photopatterned Nanoporous Polymer Membranes. Analytical Chemistry, 2004, 76, 2367-2373.	3.2	107
15	Microfluidic immunocapture of circulating pancreatic cells using parallel EpCAM and MUC1 capture: characterization, optimization and downstream analysis. Lab on A Chip, 2014, 14, 1775-1784.	3.1	107
16	Isolation of breast cancer and gastric cancer circulating tumor cells by use of an anti HER2-based microfluidic device. Lab on A Chip, 2014, 14, 147-156.	3.1	94
17	The zeta potential of cyclo-olefin polymer microchannels and its effects on insulative (electrodeless) dielectrophoresis particle trapping devices. Electrophoresis, 2005, 26, 1792-1799.	1.3	93
18	Expression of AR-V7 and ARv567es in Circulating Tumor Cells Correlates with Outcomes to Taxane Therapy in Men with Metastatic Prostate Cancer Treated in TAXYNERGY. Clinical Cancer Research, 2019, 25, 1880-1888.	3.2	92

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19	Stiffness of photocrosslinked RGDâ€alginate gels regulates adipose progenitor cell behavior. Biotechnology and Bioengineering, 2011, 108, 1683-1692.	1.7	91
20	Microchip HPLC of Peptides and Proteins. Analytical Chemistry, 2005, 77, 2997-3000.	3.2	88
21	Electrothermal flow effects in insulating (electrodeless) dielectrophoresis systems. Electrophoresis, 2010, 31, 3622-3633.	1.3	88
22	Microfluidic isolation of cancer-cell-derived microvesicles from hetergeneous extracellular shed vesicle populations. Biomedical Microdevices, 2014, 16, 869-877.	1.4	87
23	Zeta potential and electroosmotic mobility in microfluidic devices fabricated from hydrophobic polymers: 2. Slip and interfacial water structure. Electrophoresis, 2008, 29, 1102-1114.	1.3	84
24	Charge Scaling Manifesto: A Way of Reconciling the Inherently Macroscopic and Microscopic Natures of Molecular Simulations. Journal of Physical Chemistry Letters, 2019, 10, 7531-7536.	2.1	83
25	Programmable modification of cell adhesion and zeta potential in silica microchips. Lab on A Chip, 2003, 3, 5.	3.1	79
26	Randomized, Noncomparative, Phase II Trial of Early Switch From Docetaxel to Cabazitaxel or Vice Versa, With Integrated Biomarker Analysis, in Men With Chemotherapy-NaÃ¯ve, Metastatic, Castration-Resistant Prostate Cancer. Journal of Clinical Oncology, 2017, 35, 3181-3188.	0.8	73
27	Increasing the performance of high-pressure, high-efficiency electrokinetic micropumps using zwitterionic solute additives. Sensors and Actuators B: Chemical, 2003, 92, 37-43.	4.0	60
28	Soft diffuse interfaces in electrokinetics â€“ theory and experiment for transport in charged diffuse layers. Soft Matter, 2012, 8, 10598.	1.2	60
29	Micro-total analysis system for virus detection: microfluidic pre-concentration coupled to liposome-based detection. Analytical and Bioanalytical Chemistry, 2012, 402, 315-323.	1.9	59
30	Voltage-addressable on/off microvalves for high-pressure microchip separations. Journal of Chromatography A, 2002, 979, 147-154.	1.8	56
31	On-Chip High-Pressure Picoliter Injector for Pressure-Driven Flow through Porous Media. Analytical Chemistry, 2004, 76, 5063-5068.	3.2	53
32	Separation of 300 and 100 nm Particles in Fabryâ€“Perot Acoustofluidic Resonators. Analytical Chemistry, 2017, 89, 12192-12200.	3.2	53
33	Circulating Tumor Cells in Prostate Cancer Diagnosis and Monitoring: An Appraisal of Clinical Potential. Molecular Diagnosis and Therapy, 2014, 18, 389-402.	1.6	51
34	Effects of heater surface orientation on the critical heat fluxâ€”I. An experimental evaluation of models for subcooled pool boiling. International Journal of Heat and Mass Transfer, 1997, 40, 4007-4019.	2.5	50
35	Planar laser-induced fluorescence imaging of carbon monoxide using vibrational (infrared) transitions. Applied Physics B: Lasers and Optics, 1999, 69, 505-507.	1.1	49
36	Enrichment of prostate cancer cells from blood cells with a hybrid dielectrophoresis and immunocapture microfluidic system. Biomedical Microdevices, 2013, 15, 941-948.	1.4	49

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37	Automated Dielectrophoretic Characterization of Mycobacterium smegmatis. Analytical Chemistry, 2011, 83, 3507-3515.	3.2	46
38	Immunocapture of prostate cancer cells by use of anti-PSMA antibodies in microdevices. Biomedical Microdevices, 2012, 14, 401-407.	1.4	42
39	Three-Dimensional Numerical Modeling of Surface-Acoustic-Wave Devices: Acoustophoresis of Micro- and Nanoparticles Including Streaming. Physical Review Applied, 2019, 12, .	1.5	39
40	Microfluidic transport in microdevices for rare cell capture. Electrophoresis, 2012, 33, 3133-3142.	1.3	38
41	Isolation and characterization of circulating tumor cells in prostate cancer. Frontiers in Oncology, 2012, 2, 131.	1.3	38
42	Detection of algal lipid accumulation due to nitrogen limitation via dielectric spectroscopy of Chlamydomonas reinhardtii suspensions in a coaxial transmission line sample cell. Bioresource Technology, 2013, 143, 623-631.	4.8	33
43	Imaging of CO and CO2 using infrared planar laser-induced fluorescence. Proceedings of the Combustion Institute, 2000, 28, 253-259.	2.4	32
44	Linear excitation schemes for IR planar-induced fluorescence imaging of CO and CO_2. Applied Optics, 2002, 41, 1190.	2.1	31
45	Automated electrorotation shows electrokinetic separation of pancreatic cancer cells is robust to acquired chemotherapy resistance, serum starvation, and EMT. Biomicrofluidics, 2016, 10, 064109.	1.2	30
46	How Biophysical Forces Regulate Human B Cell Lymphomas. Cell Reports, 2018, 23, 499-511.	2.9	30
47	Microfluidic routing of aqueous and organic flows at high pressures: fabrication and characterization of integrated polymer microvalve elements. Lab on A Chip, 2005, 5, 184.	3.1	27
48	Comparison and optimization of machine learning methods for automated classification of circulating tumor cells. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2016, 89, 922-931.	1.1	27
49	Parametric control of collision rates and capture rates in geometrically enhanced differential immunocapture (GEDI) microfluidic devices for rare cell capture. Biomedical Microdevices, 2014, 16, 143-151.	1.4	24
50	Characterization of microfluidic shear-dependent epithelial cell adhesion molecule immunocapture and enrichment of pancreatic cancer cells from blood cells with dielectrophoresis. Biomicrofluidics, 2014, 8, 044107.	1.2	23
51	Cancerous epithelial cell lines shed extracellular vesicles with a bimodal size distribution that is sensitive to glutamine inhibition. Physical Biology, 2014, 11, 065001.	0.8	21
52	CO_2 imaging with saturated planar laser-induced vibrational fluorescence. Applied Optics, 2001, 40, 6136.	2.1	20
53	Transport and collision dynamics in periodic asymmetric obstacle arrays: Rational design of microfluidic rare-cell immunocapture devices. Physical Review E, 2013, 88, 032136.	0.8	20
54	Enhancing sensitivity and specificity in rare cell capture microdevices with dielectrophoresis. Biomicrofluidics, 2015, 9, 014116.	1.2	19

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55	Effects of ammonioalkyl sulfonate internal salts on electrokinetic micropump performance and reversed-phase high-performance liquid chromatographic separations. Journal of Chromatography A, 2003, 1013, 93-101.	1.8	18
56	Transient Î¶â€potential measurements in hydrophobic, TOPAS microfluidic substrates. Electrophoresis, 2009, 30, 2656-2667.	1.3	18
57	Using Acoustic Perturbations to Dynamically Tune Shear Thickening in Colloidal Suspensions. Physical Review Letters, 2019, 123, 128001.	2.9	17
58	Microfluidic Enrichment of Mouse Epidermal Stem Cells and Validation of Stem Cell Proliferation In Vitro. Tissue Engineering - Part C: Methods, 2013, 19, 765-773.	1.1	15
59	Measurement of Lipid Accumulation in Chlorella vulgaris via Flow Cytometry and Liquid-State Â¹H NMR Spectroscopy for Development of an NMR-Traceable Flow Cytometry Protocol. PLoS ONE, 2015, 10, e0134846.	1.1	15
60	Characterization of a hybrid dielectrophoresis and immunocapture microfluidic system for cancer cell capture. Electrophoresis, 2013, 34, 2970-2979.	1.3	14
61	Electrokinetic Measurements of Thin Nafion Films. Langmuir, 2014, 30, 1985-1993.	1.6	13
62	Scalable Synthesis of Switchable Assemblies of Gold Nanorod Lyotropic Liquid Crystal Nanocomposites. Small, 2019, 15, 1901666.	5.2	12
63	anti-EGFR capture mitigates EMT- and chemoresistance-associated heterogeneity in a resistance-profiling CTC platform. Analytical Biochemistry, 2019, 577, 26-33.	1.1	12
64	Single-Cell Copy Number Analysis of Prostate Cancer Cells Captured with Geometrically Enhanced Differential Immunocapture Microdevices. Analytical Chemistry, 2014, 86, 11013-11017.	3.2	11
65	Integrated microfluidic preconcentrator and immunobiosensor. Microfluidics and Nanofluidics, 2011, 11, 537-544.	1.0	10
66	Culture of primary rat hippocampal neurons: design, analysis, and optimization of a microfluidic device for cell seeding, coherent growth, and solute delivery. Biomedical Microdevices, 2013, 15, 97-108.	1.4	9
67	Refolding of Î²-galactosidase: microfluidic device for reagent metering and mixing and quantification of refolding yield. Microfluidics and Nanofluidics, 2009, 7, 275-281.	1.0	8
68	Control of the Electromechanical Properties of Alginate Hydrogels via Ionic and Covalent Cross-Linking and Microparticle Doping. Biomacromolecules, 2010, 11, 2184-2189.	2.6	8
69	Miniature and Microchip Technologies. Journal of Chromatography Library, 2003, , 659-685.	0.1	4
70	Surface conductivity in electrokinetic systems with porous and charged interfaces: Analytical approximations and numerical results. Electrophoresis, 2016, 37, 1979-1991.	1.3	4
71	Decorrelation correction for nanoparticle tracking analysis of dilute polydisperse suspensions in bulk flow. Physical Review E, 2017, 95, 033305.	0.8	4
72	TAXYNERGY (NCT01718353): A randomized phase II trial examining an early switch from first-line docetaxel to cabazitaxel, or cabazitaxel to docetaxel, in men with metastatic castration-resistant prostate cancer (mCRPC).. Journal of Clinical Oncology, 2013, 31, TPS5100-TPS5100.	0.8	4

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73	Ambient pressure effects on the electrokinetic potential of Zeonorâ€“water interfaces. Journal of Colloid and Interface Science, 2011, 361, 381-387.	5.0	3
74	Force and flux relations for flows of ionic solutions between parallel plates with porous and charged layers. Physical Review E, 2013, 88, 042408.	0.8	3
75	A transfer function approach for predicting rare cell capture microdevice performance. Biomedical Microdevices, 2015, 17, 9956.	1.4	2
76	Microfluidic chip for label-free removal of teratoma-forming cells from therapeutic human stem cells. Journal of Immunology and Regenerative Medicine, 2020, 10, 100030.	0.2	2
77	Nonlinear optical interactions with Rubidium atoms confined in a hollow-core photonic crystal fiber. , 2006, , .		1
78	Rational design protocols for size-based particle sorting microdevices using symmetry-induced cyclical dynamics. Physical Review E, 2020, 101, 032125.	0.8	1
79	Baseline analysis of circulating tumor cell (CTC) enumeration and androgen receptor (AR) localization in men with metastatic castration-resistant prostate cancer (mCRPC) in TAXYNERGY.. Journal of Clinical Oncology, 2015, 33, 5031-5031.	0.8	1
80	Inorganic Proton Exchange Membranes. , 2006, , 1135.		0
81	2563 Screening and baseline analysis of circulating tumor cell (CTC) counts and androgen receptor (AR) localization with clinical characteristics of men with metastatic castration-resistant prostate cancer (mCRPC) in TAXYNERGY. European Journal of Cancer, 2015, 51, S498-S499.	1.3	0
82	Acquired chemoresistance drives spatial heterogeneity, chemoprotection and collective migration in pancreatic tumor spheroids. PLoS ONE, 2022, 17, e0267882.	1.1	0