Michal PÅibyl

List of Publications by Year
in descending order

55 papers	638 citations	567281 15 h-index	677142 22 g-index
57 all docs	57 docs citations	57 times ranked	598 citing authors

#	Article	IF	Citations
1	Discrete Models of Autocrine Cell Communication in Epithelial Layers. Biophysical Journal, 2003, 84, 3624-3635.	0.5	45
2	Long-Range Signal Transmission in Autocrine Relays. Biophysical Journal, 2003, 84, 883-896.	0.5	41
3	Study on surface properties of PDMS microfluidic chips treated with albumin. Biomicrofluidics, 2009, 3, 044101.	2.4	41
4	Enzyme synthesis of cephalexin in continuous-flow microfluidic device in ATPS environment. Chemical Engineering Journal, 2020, 396, 125236.	12.7	32
5	Mathematical modeling of AC electroosmosis in microfluidic and nanofluidic chips using equilibrium and non-equilibrium approaches. Journal of Applied Electrochemistry, 2010, 40, 967-980.	2.9	28
6	Enzyme hydrolysis of soybean oil in a slug flow microsystem. Biochemical Engineering Journal, 2012, 67, 194-202.	3.6	27
7	Oscillatory motion of water droplets in kerosene above co-planar electrodes in microfluidic chips. AIP Advances, 2014, 4, 067103.	1.3	23
8	Nonlinear phenomena and qualitative evaluation of risk of clogging in a capillary microreactor under imposed electric field. Chemical Engineering Journal, 2005, 105, 99-109.	12.7	21
9	PDMS microfluidic chips prepared by a novel casting and pre-polymerization method. Microelectronic Engineering, 2010, 87, 1600-1602.	2.4	21
10	Optimization of aqueous two-phase systems for the production of 6-aminopenicillanic acid in integrated microfluidic reactors-separators. New Biotechnology, 2018, 47, 73-79.	4.4	20
11	Modeling of hydrogel immobilized enzyme reactors with mass-transport enhancement by electric field. Chemical Engineering Science, 2001, 56, 433-442.	3.8	18
12	Transient behavior of an electrolytic diode. Physical Chemistry Chemical Physics, 2007, 9, 5374.	2.8	18
13	Fabrication of plastic microchips with gold microelectrodes using techniques of sacrificed substrate and thermally activated solvent bonding. Microelectronic Engineering, 2010, 87, 1590-1593.	2.4	18
14	Three-phase slug flow in microchips can provide beneficial reaction conditions for enzyme liquid-liquid reactions. Biomicrofluidics, 2013, 7, 054103.	2.4	17
15	Aldolase catalyzed L-phenylserine synthesis in a slug-flow microfluidic system â€“ Performance and diastereoselectivity studies. Chemical Engineering Science, 2017, 169, 97-105.	3.8	16
16	Modeling of electric-field driven transport processes in microdevices for immunoassay. Chemical Engineering Journal, 2004, 101, 303-314.	12.7	14
17	Plastic microfluidic systems made by imprinting against an epoxy stamp. Microelectronic Engineering, 2010, 87, 1527-1530.	2.4	14
18	Electric field driven addressing of ATPS droplets in microfluidic chips. Microfluidics and Nanofluidics, 2017, 21, 1.	2.2	13

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19	Minimal oscillating subnetwork in the Huang-Ferrell model of the MAPK cascade. PLoS ONE, 2017, 12, e0178457.	2.5	13
20	Transitions in the model of epithelial patterning. Developmental Dynamics, 2003, 226, 155-159.	1.8	12
21	Modeling reaction-transport processes in a microcapillary biosensor for detection of human IgG. Microelectronic Engineering, 2006, 83, 1660-1663.	2.4	12
22	Numerical study on AC electroosmosis in microfluidic channels. Microelectronic Engineering, 2009, 86, 1333-1336.	2.4	12
23	Detection of immunoglobulins in a laser induced fluorescence system utilizing polydimethysiloxane microchips with advanced surface and optical properties. Biomicrofluidics, 2011, 5, 14101.	2.4	11
24	Electric Field Driven Addressing of Oil-in-Water Droplets in the Presence of Gradients of Ionic and Nonionic Surfactants. IEEE Transactions on Industry Applications, 2016, 52, 4337-4344.	4.9	10
25	Electricâ€fieldâ€enhanced selective separation of products of an enzymatic reaction in a membrane microâ€contactor. Biotechnology and Bioengineering, 2021, 118, 715-724.	3.3	10
26	Toward High Net Velocities in AC Electroosmotic Micropumps Based on Asymmetric Coplanar Electrodes. IEEE Transactions on Industry Applications, 2010, 46, 1679-1691.	4.9	9
27	Separation efficiency of parallel flow microfluidic extractors with transport enhanced by electric field. Separation and Purification Technology, 2019, 221, 311-318.	7.9	9
28	Fast ferritin immunoassay on PDMS microchips. Chemical Papers, 2011, 65, .	2.2	8
29	AC electric sensing of slug-flow properties with exposed gold microelectrodes. Journal of Micromechanics and Microengineering, 2014, 24, 015002.	2.6	8
30	Mathematical Modeling of Traveling Wave Micropumps: Analysis of Energy Transformation. IEEE Transactions on Industry Applications, 2013, 49, 685-690.	4.9	7
31	Characterization of slug flow of two aqueous phases by electrochemical impedance spectroscopy in a fluidic chip. Microelectronic Engineering, 2018, 194, 89-95.	2.4	7
32	Adaptive mesh simulations of ionic systems in microcapillaries based on the estimation of transport times. Computers and Chemical Engineering, 2006, 30, 674-685.	3.8	6
33	Numerical Models for AC Electroosmotic Micropumps. IEEE Transactions on Industry Applications, 2010, 46, 2179-2189.	4.9	6
34	Computational fluid dynamics model of rhythmic motion of charged droplets between parallel electrodes. Journal of Fluid Mechanics, 2017, 822, 31-53.	3.4	6
35	Theoretical study on enzyme synthesis of cephalexin in a parallel-flow microreactor combined with electrically driven ATPS microextraction. Reaction Chemistry and Engineering, 2020, 5, 570-583.	3.7	6
36	Microfluidic chip for fast bioassaysâ€"evaluation of binding parameters. Biomicrofluidics, 2007, 1, 024101.	2.4	5

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37	Electro-osmotic characteristics of Polystyrene microchips â€“ Experiments and modeling. Microelectronic Engineering, 2008, 85, 1100-1103.	2.4	5
38	Kinetic mechanism for modeling of electrochemical reactions. Physical Review E, 2012, 85, 041505.	2.1	5
39	Electric field assisted transport of dielectric droplets dispersed in aqueous solutions of ionic surfactants. Electrophoresis, 2018, 39, 2997-3005.	2.4	5
40	Microreaction and membrane technologies for continuous single-enantiomer production: A review. Catalysis Reviews - Science and Engineering, 2023, 65, 773-821.	12.9	5
41	Effects of Convective Transport on Chemical Signal Propagation in Epithelia. Biophysical Journal, 2012, 102, 990-1000.	0.5	4
42	Enzymatic sensor of putrescine with optical oxygen transducer â€“ mathematical model of responses of sensitive layer. Chemical Papers, 2015, 69, .	2.2	4
43	Multiphysical Modeling of DC and AC Electroosmosis in Micro- and Nanosystems. , 0, , .		4
44	A mathematical model of a lateral electrochromatography device for continuous chiral separation. Separation and Purification Technology, 2022, 282, 120033.	7.9	4
45	Development of a conductivity microsensor considering electric double layer capacity. Microelectronic Engineering, 2012, 97, 387-390.	2.4	3
46	Oscillatory Flow Accelerates Autocrine Signaling due to Nonlinear Effect of Convection on Receptor-Related Actions. Biophysical Journal, 2013, 105, 818-828.	0.5	3
47	Effects of aqueous systems and stabilization membranes on the separation of an antibiotic precursor in a microextractor. Separation and Purification Technology, 2022, 292, 121050.	7.9	3
48	Dynamical and stationary analysis of an electrolyte diode and comparison with experiments. Computer Aided Chemical Engineering, 2006, 21, 291-296.	0.5	2
49	Hybrid goldâ€“copper stamp for rapid fabrication of microchips. Microelectronic Engineering, 2012, 98, 548-551.	2.4	2
50	Mathematical modeling of electrochemical cell involving novel kinetics description. , 2011, , .		1
51	Development of a dip-stick electrochemical micro-biosensor: Stability of protein layers on gold. Microelectronic Engineering, 2013, 111, 289-293.	2.4	1
52	Local kinetics and thermodynamics of rapid electrochemical reactions. Physical Review E, 2014, 89, 042403.	2.1	1
53	Electrochemical characteristics of ideal polarizable interfaces with limited number of charge carriers. Physical Review E, 2015, 92, 052404.	2.1	1
54	Electric field driven addressing of oil in water droplets in the presence of gradients of ionic and nonionic surfactants. , 2015, , .		1

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55	Travelingâ€wave Phenomena in a Model of Autocrine Signaling Coupled with Dynamics of the MAPK Cascade. Israel Journal of Chemistry, 2018, 58, 742-752.	2.3	0