RÃ³bert E GyurcsÃ¡nyi

List of Publications by Year
in descending order

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113 papers	4,742 citations	76322 40 h-index	106340 65 g-index
117 all docs	117 docs citations	117 times ranked	3755 citing authors

#	Article	IF	Citations
1	Quality control criteria for solid-contact, solvent polymeric membrane ion-selective electrodes. Journal of Solid State Electrochemistry, 2009, 13, 51-68.	2.5	273
2	Chemically-modified nanopores for sensing. TrAC - Trends in Analytical Chemistry, 2008, 27, 627-639.	11.4	182
3	Tailored Transport Through Ion-Selective Membranes for Improved Detection Limits and Selectivity Coefficients. Electroanalysis, 1999, 11, 695-702.	2.9	141
4	Electrosynthesized molecularly imprinted polymers for protein recognition. TrAC - Trends in Analytical Chemistry, 2016, 79, 179-190.	11.4	138
5	Electrosynthesized Surfaceâ€Imprinted Conducting Polymer Microrods for Selective Protein Recognition. Advanced Materials, 2009, 21, 2271-2275.	21.0	135
6	Picomolar Detection Limits with Current-Polarized Pb2+Ion-Selective Membranes. Analytical Chemistry, 2001, 73, 4249-4253.	6.5	131
7	Electrosynthesized molecularly imprinted polypyrrole films for enantioselective recognition of l-aspartic acid. Electrochimica Acta, 2008, 53, 2729-2736.	5.2	123
8	Direct Evidence of Ionic Fluxes Across Ion-Selective Membranes:â€‰ A Scanning Electrochemical Microscopic and Potentiometric Study. Analytical Chemistry, 2001, 73, 2104-2111.	6.5	119
9	A polypyrrole-based solid-contact Pb2+-selective PVC-membrane electrode with a nanomolar detection limit. Analytical and Bioanalytical Chemistry, 2004, 380, 7-14.	3.7	117
10	Microfabricated ISEs: critical comparison of inherently conducting polymer and hydrogel based inner contacts. Talanta, 2004, 63, 89-99.	5.5	115
11	Novel polypyrrole based all-solid-state potassium-selective microelectrodes. Analyst, The, 1998, 123, 1339-1344.	3.5	101
12	Hybridization-Modulated Ion Fluxes through Peptide-Nucleic-Acid- Functionalized Gold Nanotubes. A New Approach to Quantitative Label-Free DNA Analysis. Nano Letters, 2007, 7, 1609-1612.	9.1	92
13	Aptamer-based biochips for label-free detection of plant virus coat proteins by SPR imaging. Analyst, The, 2010, 135, 918.	3.5	90
14	Comparative investigation of electrochemical cholinesterase biosensors for pesticide determination. Analytica Chimica Acta, 2000, 404, 55-65.	5.4	82
15	Amperometric microcells for alkaline phosphatase assay. Analyst, The, 2002, 127, 235-240.	3.5	75
16	FTIRâ€ATR Study of Water Uptake and Diffusion Through Ionâ€Selective Membranes Based on Plasticized Poly(vinyl chloride). Electroanalysis, 2009, 21, 1914-1922.	2.9	75
17	Polyaniline Nanoparticle-Based Solid-Contact Silicone Rubber Ion-Selective Electrodes for Ultratrace Measurements. Analytical Chemistry, 2010, 82, 9425-9432.	6.5	75
18	Electrosynthesized molecularly imprinted polyscopoletin nanofilms for human serum albumin detection. Analytica Chimica Acta, 2017, 977, 1-9.	5.4	73

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19	Solidâ€State Ion Channels for Potentiometric Sensing. Angewandte Chemie - International Edition, 2011, 50, 1656-1659.	13.8	72
20	Selective Artificial Receptors Based on Micropatterned Surfaceâ€Imprinted Polymers for Labelâ€Free Detection of Proteins by SPR Imaging. Advanced Functional Materials, 2011, 21, 591-597.	14.9	68
21	Pre-Polarized Hydrophobic Conducting Polymer Solid-Contact Ion-Selective Electrodes with Improved Potential Reproducibility. Analytical Chemistry, 2017, 89, 2598-2605.	6.5	68
22	Molecularly imprinted polymer-based electrochemical sensors for biopolymers. Current Opinion in Electrochemistry, 2019, 14, 53-59.	4.8	67
23	FTIR-ATR Study of Water Uptake and Diffusion through Ion-Selective Membranes Based on Poly(acrylates) and Silicone Rubber. Analytical Chemistry, 2009, 81, 5925-5934.	6.5	64
24	Chemical imaging of biological systems with the scanning electrochemical microscope. Bioelectrochemistry, 2004, 63, 207-215.	4.6	63
25	Hyphenated FT-IR-Attenuated Total Reflection and Electrochemical Impedance Spectroscopy Technique to Study the Water Uptake and Potential Stability of Polymeric Solid-Contact Ion-Selective Electrodes. Analytical Chemistry, 2011, 83, 4902-4908.	6.5	60
26	Microcavity Based Solid-Contact Ion-Selective Microelectrodes. Electroanalysis, 2006, 18, 1372-1378.	2.9	57
27	Calibration-Less Sizing and Quantitation of Polymeric Nanoparticles and Viruses with Quartz Nanopipets. Analytical Chemistry, 2014, 86, 4688-4697.	6.5	56
28	Ionophoreâ€“gold nanoparticle conjugates for Ag+-selective sensors with nanomolar detection limit. Chemical Communications, 2010, 46, 607-609.	4.1	55
29	Microelectrospotting as a new method for electrosynthesis of surface-imprinted polymer microarrays for protein recognition. Biosensors and Bioelectronics, 2015, 73, 123-129.	10.1	53
30	MIPs and Aptamers for Recognition of Proteins in Biomimetic Sensing. Biosensors, 2016, 6, 35.	4.7	53
31	Electrochemical sensing with nanopores: A mini review. Electrochemistry Communications, 2014, 43, 55-59.	4.7	51
32	Vectorially Imprinted Hybrid Nanofilm for Acetylcholinesterase Recognition. Advanced Functional Materials, 2015, 25, 5178-5183.	14.9	51
33	Potential Reproducibility of Potassium-Selective Electrodes Having Perfluorinated Alkanoate Side Chain Functionalized Poly(3,4-ethylenedioxytiophene) as a Hydrophobic Solid Contact. Analytical Chemistry, 2019, 91, 9111-9118.	6.5	51
34	Biorecognition-modulated ion fluxes through functionalized gold nanotubules as a novel label-free biosensing approach. Chemical Communications, 2003, , 2560-2561.	4.1	50
35	Selection and versatile application of virusâ€specific aptamers. FASEB Journal, 2010, 24, 4187-4195.	0.5	49
36	Is less more? Lessons from aptamer selection strategies. Journal of Pharmaceutical and Biomedical Analysis, 2014, 101, 58-65.	2.8	48

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37	A method based on light scattering to estimate the concentration of virus particles without the need for virus particle standards. MethodsX, 2015, 2, 91-99.	1.6	46
38	Aptasensors for viral diagnostics. TrAC - Trends in Analytical Chemistry, 2015, 74, 58-67.	11.4	45
39	Spectroscopic Method for the Determination of the Ionic Site Concentration in Solvent Polymeric Membranes and Membrane Plasticizers. Analytical Chemistry, 2002, 74, 4060-4068.	6.5	44
40	Electrochemical methods for the determination of the diffusion coefficient of ionophores and ionophoreâ€“ion complexes in plasticized PVC membranes. Analyst, The, 2008, 133, 635.	3.5	44
41	Ionâ€Selective Electrodes Based on Hydrophilic Ionophoreâ€Modified Nanopores. Angewandte Chemie - International Edition, 2018, 57, 4752-4755.	13.8	41
42	Influence of Incorporated Lipophilic Particles on Ion Fluxes Through Polymeric Ion-Selective Membranes. Electroanalysis, 2003, 15, 375-382.	2.9	40
43	The Water Uptake of Plasticized Poly(vinyl chloride) Solidâ€Contact Calciumâ€Selective Electrodes. Electroanalysis, 2011, 23, 2156-2163.	2.9	40
44	Electrochemical Detection of miRNAs. Electroanalysis, 2014, 26, 1224-1235.	2.9	40
45	Electropolymerized hydrophobic polyazulene as solid-contacts in potassium-selective electrodes. Analyst, The, 2016, 141, 2990-2997.	3.5	40
46	Towards Protein Assays on Paper Platforms with Potentiometric Detection. Electroanalysis, 2012, 24, 146-152.	2.9	39
47	A Chronoamperometric Method To Estimate Changes in the Membrane Composition of Ion-Selective Membranes. Analytical Chemistry, 2001, 73, 4599-4606.	6.5	38
48	Synthesis and characterization of covalently immobilized bis-crown ether based potassium ionophore. Analyst, The, 2005, 130, 63-70.	3.5	38
49	Electrosynthesized MIPs for transferrin: Plastibodies or nano-filters?. Biosensors and Bioelectronics, 2018, 105, 29-35.	10.1	38
50	Spectroelectrochemical Microscopy:â€‰ Spatially Resolved Spectroelectrochemistry of Carrier-Based Ion-Selective Membranes. Analytical Chemistry, 2005, 77, 2132-2139.	6.5	36
51	Properties of mixed alkanethiolâ€“dendrimer layers and their applications in biosensing. Bioelectrochemistry, 2004, 63, 285-289.	4.6	35
52	Ionâ€selective Electrodes with 3D Nanostructured Conducting Polymer Solid Contact. Electroanalysis, 2016, 28, 778-786.	2.9	35
53	Aptamers for respiratory syncytial virus detection. Scientific Reports, 2017, 7, 42794.	3.3	34
54	Limitations of Current Polarization for Lowering the Detection Limit of Potentiometric Polymeric Membrane Sensors. Analytical Chemistry, 2009, 81, 3592-3599.	6.5	32

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55	Influence of Poly(3â€octylthiophene) on the Water Transport Through Methacrylicâ€Acrylic Based Polymer Membranes. Electroanalysis, 2011, 23, 1769-1772.	2.9	32
56	Development and study of an amperometric biosensor for the in vitro measurement of low concentration of putrescine in blood. Journal of Proteomics, 2002, 53, 165-175.	2.4	31
57	Potentiometric enzyme immunoassay using miniaturized anion-selective electrodes for detection. Analyst, The, 2009, 134, 1601.	3.5	31
58	Mathematical Model of Currentâ€Polarized Ionophoreâ€Based Ionâ€Selective Membranes: Large Current Chronopotentiometry. Electroanalysis, 2008, 20, 259-269.	2.9	30
59	How To Assess the Limits of Ion-Selective Electrodes:â€‰ Method for the Determination of the Ultimate Span, Response Range, and Selectivity Coefficients of Neutral Carrier-Based Cation Selective Electrodes. Analytical Chemistry, 2006, 78, 942-950.	6.5	28
60	Lipophilic Multiâ€walled Carbon Nanotubeâ€based Solid Contact Potassium Ionâ€selective Electrodes with Reproducible Standard Potentials. A Comparative Study. Electroanalysis, 2020, 32, 867-873.	2.9	28
61	Peptide epitope-imprinted polymer microarrays for selective protein recognition. Application for SARS-CoV-2 RBD protein. Chemical Science, 2022, 13, 1263-1269.	7.4	28
62	Electrochemical template synthesis of protein-imprinted magnetic polymer microrods. Journal of Materials Science, 2013, 48, 5209-5218.	3.7	27
63	Aptamers against Immunoglobulins: Design, Selection and Bioanalytical Applications. International Journal of Molecular Sciences, 2020, 21, 5748.	4.1	25
64	Synthesis and characterization of inherently conducting polymers by using Scanning Electrochemical Microscopy and Electrochemical Quartz Crystal Microbalance. Synthetic Metals, 2005, 152, 133-136.	3.9	24
65	Chronopotentiometric method for the assessment of ionophore diffusion coefficients in solvent polymeric membranes. Journal of Solid State Electrochemistry, 2009, 13, 171-179.	2.5	24
66	Selective counting and sizing of single virus particles using fluorescent aptamer-based nanoparticle tracking analysis. Nanoscale, 2018, 10, 13942-13948.	5.6	24
67	Nanosensors lost in space. A random walk study of single molecule detection with single-nanopore sensors. Analytica Chimica Acta, 2012, 722, 119-126.	5.4	23
68	Nernstâ€“Planck/Poisson model for the potential response of permselective gold nanopores. Electrochimica Acta, 2012, 73, 70-77.	5.2	23
69	A glance into the bulk of solvent polymeric pH membranes. Pure and Applied Chemistry, 2001, 73, 17-22.	1.9	20
70	Potentiometric sensing of nucleic acids using chemically modified nanopores. Nanoscale, 2017, 9, 739-747.	5.6	20
71	Finding the Optimal Surface Density of Aptamer Monolayers by SPR Imaging Detectionâ€based Aptamer Microarrays. Electroanalysis, 2020, 32, 851-858.	2.9	20
72	Multispectral imaging of ion transport in neutral carrier-based cation-selective membranes. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2006, 69A, 792-804.	1.5	19

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73	Synthesis and Characterization of a Novel, Colored Lipophilic Additive for Spectral Imaging the Transport in Ionophore Based Ion-Selective Membranes. Electroanalysis, 2006, 18, 1396-1407.	2.9	19
74	Automatic Target Location Strategy-A Novel Approach in Scanning Electrochemical Microscopy. Electroanalysis, 1999, 11, 349-355.	2.9	18
75	Nanosphere Lithography as a Versatile Method to Generate Surfaceâ€Imprinted Polymer Films for Selective Protein Recognition. Advanced Functional Materials, 2013, 23, 4703-4709.	14.9	17
76	Reliable microspotting methodology for peptide-nucleic acid layers with high hybridization efficiency on gold SPR imaging chips. Analytical Methods, 2015, 7, 6077-6082.	2.7	17
77	A rational approach for generating cardiac troponin I selective Spiegelmers. Chemical Communications, 2014, 50, 6801-6804.	4.1	16
78	Ionâ€Selective Electrodes Based on Hydrophilic Ionophoreâ€Modified Nanopores. Angewandte Chemie, 2018, 130, 4842-4845.	2.0	16
79	Analytical performance characteristics of thin and thick film amperometric microcells. Fresenius' Journal of Analytical Chemistry, 2001, 369, 286-294.	1.5	15
80	Homogeneous assay for evaluation of aptamerâ€“protein interaction. Analyst, The, 2012, 137, 3929.	3.5	14
81	Solid-contact ion-selective electrodes based on ferrocene-functionalized multi-walled carbon nanotubes. Electrochemistry Communications, 2021, 123, 106903.	4.7	14
82	Assessment of Ionâ€Ionophore Complex Diffusion Coefficients in Solvent Polymeric Membranes. Electroanalysis, 2009, 21, 1923-1930.	2.9	13
83	Interpretation of chronopotentiometric transients of ion-selective membranes with two transition times. Journal of Electroanalytical Chemistry, 2010, 638, 254-261.	3.8	13
84	â€œOut of Pocketâ€•Protein Bindingâ€”A Dilemma of Epitope Imprinted Polymers Revealed for Human Hemoglobin. Chemosensors, 2021, 9, 128.	3.6	13
85	Investigation of Styreneâ^'Methacrylic Acid Block Copolymer Micelle Doped Polypyrrole Films by Scanning Electrochemical Microscopy. Journal of Physical Chemistry B, 1998, 102, 9934-9939.	2.6	11
86	Screen-printed amperometric microcell for proline iminopeptidase enzyme activity assay. Biosensors and Bioelectronics, 2000, 15, 265-272.	10.1	11
87	Insights in electrosynthesis, target binding, and stability of peptide-imprinted polymer nanofilms. Electrochimica Acta, 2021, 381, 138236.	5.2	11
88	Simple, Single Step Potential Difference Measurement for the Determination of the Ultimate Detection Limit of Ion Selective Electrodes. Electroanalysis, 2006, 18, 1245-1253.	2.9	9
89	3D-printed manifold integrating solid contact ion-selective electrodes for multiplexed ion concentration measurements in urine. Talanta, 2021, 232, 122491.	5.5	9
90	TEMPO-Functionalized Carbon Nanotubes for Solid-Contact Ion-Selective Electrodes with Largely Improved Potential Reproducibility and Stability. Analytical Chemistry, 2022, 94, 8249-8257.	6.5	9

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91	Bioâ€Electrosynthesis of Vectorially Imprinted Polymer Nanofilms for Cytochrome P450cam. ChemElectroChem, 2019, 6, 1818-1823.	3.4	8
92	Multiplexed assessment of the surface density of DNA probes on DNA microarrays by surface plasmon resonance imaging. Analytica Chimica Acta, 2019, 1047, 131-138.	5.4	8
93	In situsilver nanoparticle coating of virions for quantification at single virus level. Nanoscale, 2022, 14, 2296-2303.	5.6	8
94	Microfabricated Amperometric Cells for Multicomponent Analysis. Electroanalysis, 2009, 21, 1944-1954.	2.9	7
95	Nanoparticle displacement assay with electrochemical nanopore-based sensors. Electrochemistry Communications, 2016, 71, 13-17.	4.7	7
96	Multivalent foldamer-based affinity assay for selective recognition of AÎ² oligomers. Analytica Chimica Acta, 2017, 960, 131-137.	5.4	7
97	Enhanced electron transfer in composite films of reduced graphene oxide and poly(N-methylaniline). Carbon, 2013, 63, 588-592.	10.3	6
98	Effects of the Focused Ion Beam Parameters on Nanopore Milling in Solid State Membranes. Procedia Engineering, 2012, 47, 684-687.	1.2	5
99	Nanopipet-Based Resistive Pulse Sensing to Follow Alterations in the Size and Concentration of Nanoparticles During Membrane Filtration. Electroanalysis, 2015, 27, 595-601.	2.9	5
100	Spiegelmer-Based Sandwich Assay for Cardiac Troponin I Detection. International Journal of Molecular Sciences, 2020, 21, 4963.	4.1	5
101	Multiplexed redox gating measurements with a microelectrospotter. Towards electrochemical readout of molecularly imprinted polymer microarrays. Electrochemistry Communications, 2020, 119, 106812.	4.7	5
102	Tailored Transport Through Ion-Selective Membranes for Improved Detection Limits and Selectivity Coefficients. Electroanalysis, 1999, 11, 695-702.	2.9	4
103	Study of the determination of acetylcholine after enzymatic hydrolysis by triangle programmed coulometric flow titration. Talanta, 1998, 47, 1021-1031.	5.5	3
104	Integrated Microfluidic Environment for Solid-state Nanopore Sensors. Procedia Engineering, 2012, 47, 13-16.	1.2	3
105	Spiegelmers as potential receptors for cTnI diagnostics. Analytical Methods, 2017, 9, 5091-5093.	2.7	2
106	Resistive Pulse Sensing as a Highâ€Resolution Nanoparticle Sizing Method: A Comparative Study. Particle and Particle Systems Characterization, 2019, 36, 1800543.	2.3	1
107	Thin- and thick-film structures for miniature biomedical sensors. , 0, , .		0
108	International Conference on Electrochemical Sensors MÃ¡trafÃ¼red 2008. Electroanalysis, 2009, 21, 1883-1886.	2.9	0

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109	Characterisation of Solid-State Gold Nanopores Applicable for Biochemical Sensing. Procedia Engineering, 2011, 25, 904-907.	1.2	0
110	MÃ¡trafÃ¼redâ€² 11, International Conference on Electrochemical Sensors. Electroanalysis, 2012, 24, 11-12.	2.9	0
111	Fluidically and electrically integrated solid state nanopore arrays for biochemical sensing. , 2014, , .		0
112	Biomimetic Sensors: Vectorially Imprinted Hybrid Nanofilm for Acetylcholinesterase Recognition (Adv. Funct. Mater. 32/2015). Advanced Functional Materials, 2015, 25, 5078-5078.	14.9	0
113	Membrane-Based Chemical Sensors and Biosensors. , 0, , 3999-4020.		0