Eric Bakker

List of Publications by Citations

344 papers	19,723 citations	69 h-index	127 g-index
374 ext. papers	21,313 ext. citations	7.5 avg, IF	7.25 L-index

#	Paper	IF	Citations
344	Carrier-Based Ion-Selective Electrodes and Bulk Optodes. 1. General Characteristics. *Chemical Reviews*, **1997**, 97, 3083-3132	68.1	1884
343	Carrier-Based Ion-Selective Electrodes and Bulk Optodes. 2. Ionophores for Potentiometric and Optical Sensors. *Chemical Reviews*, **1998**, 98, 1593-1688	68.1	1584
342	Selectivity of potentiometric ion sensors. *Analytical Chemistry*, **2000**, 72, 1127-33	7.8	633
341	Ionic additives for ion-selective electrodes based on electrically charged carriers. *Analytical Chemistry*, **1994**, 66, 391-398	7.8	370
340	Electrochemical sensors. *Analytical Chemistry*, **2006**, 78, 3965-84	7.8	364
339	Electrochemical sensors. *Analytical Chemistry*, **2002**, 74, 2781-800	7.8	359
338	Lipophilic and immobilized anionic additives in solvent polymeric membranes of cation-selective chemical sensors. *Analytica Chimica Acta*, **1993**, 280, 197-208	6.6	347
337	Electrochemical sensors. *Analytical Chemistry*, **2004**, 76, 3285-98	7.8	333
336	Determination of Unbiased Selectivity Coefficients of Neutral Carrier-Based Cation-Selective Electrodes. *Analytical Chemistry*, **1997**, 69, 1061-1069	7.8	286
335	Modern potentiometry. *Angewandte Chemie - International Edition*, **2007**, 46, 5660-8	16.4	237
334	Polymer Membrane Ion-Selective Electrodes What are the Limits?. *Electroanalysis*, **1999**, 11, 915-933	3	234
333	Potentiometric sensors for trace-level analysis. *TrAC - Trends in Analytical Chemistry*, **2005**, 24, 199-207	14.6	226
332	Anion-selective membrane electrodes based on metalloporphyrins: The influence of lipophilic anionic and cationic sites on potentiometric selectivity. *Talanta*, **1994**, 41, 881-90	6.2	218
331	Lowering the Detection Limit of Solvent Polymeric Ion-Selective Membrane Electrodes. 2. Influence of Composition of Sample and Internal Electrolyte Solution. *Analytical Chemistry*, **1999**, 71, 1210-1214	7.8	210
330	Rational design of potentiometric trace level ion sensors. A Ag+-selective electrode with a 100 ppt detection limit. *Analytical Chemistry*, **2002**, 74, 4027-36	7.8	195
329	Selectivity of liquid membrane ion-selective electrodes. *Electroanalysis*, **1997**, 9, 7-12	3	189
328	Selectivity of ion-sensitive bulk optodes. *Analytical Chemistry*, **1992**, 64, 1805-1812	7.8	188

327	Lowering the Detection Limit of Solvent Polymeric Ion-Selective Electrodes. 1. Modeling the Influence of Steady-State Ion Fluxes. *Analytical Chemistry*, **1999**, 71, 1204-1209	7.8	185
326	Solid contact potentiometric sensors for trace level measurements. *Analytical Chemistry*, **2006**, 78, 1318-28	7.8	180
325	Lead-selective bulk optodes based on neutral ionophores with subnanomolar detection limits. *Analytical Chemistry*, **1992**, 64, 1534-1540	7.8	179
324	Solid-contact polymeric membrane electrodes with detection limits in the subnanomolar range. *Analytica Chimica Acta*, **2004**, 523, 53-59	6.6	178
323	Effect of Transmembrane Electrolyte Diffusion on the Detection Limit of Carrier-Based Potentiometric Ion Sensors. *Analytical Chemistry*, **1998**, 70, 303-309	7.8	165
322	Determination of complex formation constants of lipophilic neutral ionophores in solvent polymeric membranes with segmented sandwich membranes. *Analytical Chemistry*, **1999**, 71, 5279-87	7.8	160
321	Nucleic acid hybridization on an electrically reconfigurable network of gold-coated magnetic nanoparticles enables microRNA detection in blood. *Nature Nanotechnology*, **2018**, 13, 1066-1071	28.7	159
320	Response mechanism of polymer membrane-based potentiometric polyion sensors. *Analytical Chemistry*, **1994**, 66, 2250-9	7.8	158
319	Potentiometric polymeric membrane electrodes for measurement of environmental samples at trace levels: new requirements for selectivities and measuring protocols, and comparison with ICPMS. *Analytical Chemistry*, **2001**, 73, 343-51	7.8	156
318	The phase-boundary potential model. *Talanta*, **2004**, 63, 3-20	6.2	142
317	Potentiometric biosensing of proteins with ultrasensitive ion-selective microelectrodes and nanoparticle labels. *Journal of the American Chemical Society*, **2006**, 128, 13676-7	16.4	139
316	Determination of Improved Selectivity Coefficients of Polymer Membrane Ion-Selective Electrodes by Conditioning with a Discriminated Ion. *Journal of the Electrochemical Society*, **1996**, 143, L83-L85	3.9	138
315	Potentiometric Sensing. *Analytical Chemistry*, **2019**, 91, 2-26	7.8	138
314	Reversible electrochemical detection of nonelectroactive polyions. *Journal of the American Chemical Society*, **2003**, 125, 11192-3	16.4	131
313	Aptamer-based potentiometric measurements of proteins using ion-selective microelectrodes. *Analytical Chemistry*, **2008**, 80, 707-12	7.8	129
312	Synthesis and characterization of neutral hydrogen ion-selective chromoionophores for use in bulk optodes. *Analytica Chimica Acta*, **1993**, 278, 211-225	6.6	128
311	Selectivity of polymer membrane-based ion-selective electrodes: self-consistent model describing the potentiometric response in mixed ion solutions of different charge. *Analytical Chemistry*, **1994**, 66, 3021-30	7.8	126
310	Miniature sodium-selective ion-exchange optode with fluorescent pH chromoionophores and tunable dynamic range. *Analytical Chemistry*, **1996**, 68, 2656-62	7.8	117

309	Photocurrent generation based on a light-driven proton pump in an artificial liquid membrane. *Nature Chemistry*, **2014**, 6, 202-7	17.6	116
308	Reversible photodynamic chloride-selective sensor based on photochromic spiropyran. *Journal of the American Chemical Society*, **2012**, 134, 16929-32	16.4	116
307	Elimination of undesirable water layers in solid-contact polymeric ion-selective electrodes. *Analytical Chemistry*, **2008**, 80, 6731-40	7.8	112
306	Effect of lipophilic ion-exchanger leaching on the detection limit of carrier-based ion-selective electrodes. *Analytical Chemistry*, **2001**, 73, 5582-9	7.8	104
305	Fiber-optic microsensor array based on fluorescent bulk optode microspheres for the trace analysis of silver ions. *Analytical Chemistry*, **2005**, 77, 4706-12	7.8	100
304	Polyion-sensitive membrane electrodes for biomedical analysis. *Analytical Chemistry*, **1996**, 68, 168A-175A	7.8	100
303	Pulsed galvanostatic control of ionophore-based polymeric ion sensors. *Analytical Chemistry*, **2003**, 75, 4541-50	7.8	99
302	Ion sensors: current limits and new trends. *Analytica Chimica Acta*, **1999**, 393, 11-18	6.6	98
301	Ion selective optodes: from the bulk to the nanoscale. *Analytical and Bioanalytical Chemistry*, **2015**, 407, 3899-910	4.4	97
300	Improving the detection limit of anion-selective electrodes: an iodide-selective membrane with a nanomolar detection limit. *Analytical Chemistry*, **2003**, 75, 3865-71	7.8	97
299	Determination of complex formation constants of 18 neutral alkali and alkaline earth metal ionophores in poly(vinyl chloride) sensing membranes plasticized with bis(2-ethylhexyl)sebacate and o-nitrophenyloctylether. *Analytica Chimica Acta*, **2000**, 421, 207-220	6.6	96
298	Optimum composition of neutral carrier based pH electrodes. *Analytica Chimica Acta*, **1994**, 295, 253-262	6.6	96
297	Potentiometric detection of DNA hybridization. *Journal of the American Chemical Society*, **2008**, 130, 410-1	16.4	90
296	Potentiometry at trace levels. *TrAC - Trends in Analytical Chemistry*, **2001**, 20, 11-19	14.6	90
295	Potentiometry at trace levels in confined samples: ion-selective electrodes with subfemtomole detection limits. *Journal of the American Chemical Society*, **2006**, 128, 8154-5	16.4	86
294	Carrier mechanism of acidic ionophores in solvent polymeric membrane ion-selective electrodes. *Analytical Chemistry*, **1995**, 67, 3123-3132	7.8	86
293	All-solid-state potentiometric sensors with a multiwalled carbon nanotube inner transducing layer for anion detection in environmental samples. *Analytical Chemistry*, **2015**, 87, 8640-5	7.8	85
292	The new wave of ion-selective. *Analytical Chemistry*, **2002**, 74, 420A-426A	7.8	85

291	Approaches to Improving the Lower Detection Limit of Polymeric Membrane Ion-Selective Electrodes. *Electroanalysis*, **2006**, 18, 1254-1265	3	82
290	Ionophore-based membrane electrodes: new analytical concepts and non-classical response mechanisms. *Analytica Chimica Acta*, **2000**, 416, 121-137	6.6	82
289	Evidence of a water layer in solid-contact polymeric ion sensors. *Physical Chemistry Chemical Physics* , **2008**, 10, 73-6	3.6	79
288	Novel potentiometric and optical silver ion-selective sensors with subnanomolar detection limits. *Analytica Chimica Acta*, **2006**, 572, 1-10	6.6	79
287	Determination of complex formation constants of neutral cation-selective ionophores in solvent polymeric membranes. *Analytical Chemistry*, **1994**, 66, 516-521	7.8	78
286	Plasticizer-Free Polymer Membrane Ion-Selective Electrodes Containing a Methacrylic Copolymer Matrix. *Electroanalysis*, **2002**, 14, 1375-1381	3	77
285	Potentiometric Cd2+-selective electrode with a detection limit in the low ppt range. *Analytica Chimica Acta*, **2001**, 440, 71-79	6.6	77
284	Lipophilicity of tetraphenylborate derivatives as anionic sites in neutral carrier-based solvent polymeric membranes and lifetime of corresponding ion-selective electrochemical and optical sensors. *Analytica Chimica Acta*, **1995**, 309, 7-17	6.6	77
283	Potentiometric immunoassay with quantum dot labels. *Analytical Chemistry*, **2007**, 79, 5107-10	7.8	76
282	Electroanalysis with Membrane Electrodes and Liquid-Liquid Interfaces. *Analytical Chemistry*, **2016**, 88, 395-413	7.8	75
281	Plasticizer-free polymer containing a covalently immobilized Ca2+-selective ionophore for potentiometric and optical sensors. *Analytical Chemistry*, **2003**, 75, 3038-45	7.8	73
280	Paper-based thin-layer coulometric sensor for halide determination. *Analytical Chemistry*, **2015**, 87, 1981-90	7.8	72
279	Selective Distance-Based K Quantification on Paper-Based Microfluidics. *Analytical Chemistry*, **2018**, 90, 4894-4900	7.8	69
278	pH independent nano-optode sensors based on exhaustive ion-selective nanospheres. *Analytical Chemistry*, **2014**, 86, 2853-6	7.8	69
277	Ionophore-based optical sensors. *Annual Review of Analytical Chemistry*, **2014**, 7, 483-512	12.5	69
276	Chemical Kinetics of Gold Nanorod Growth in Aqueous CTAB Solutions. *Crystal Growth and Design*, **2011**, 11, 3375-3380	3.5	69
275	Nanoscale potentiometry. *TrAC - Trends in Analytical Chemistry*, **2008**, 27, 612-618	14.6	69
274	Pulstrodes: triple pulse control of potentiometric sensors. *Journal of the American Chemical Society*, **2004**, 126, 10548-9	16.4	69

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271	Thin Layer Ionophore-Based Membrane for Multianalyte Ion Activity Detection. *Analytical Chemistry* , **2015**, 87, 7729-37	7.8	62
270	Electrogenerated chemiluminescence for potentiometric sensors. *Journal of the American Chemical Society*, **2012**, 134, 205-7	16.4	61
269	Guidelines for Improving the Lower Detection Limit of Ion-Selective Electrodes: A Systematic Approach. *Electroanalysis*, **2007**, 19, 144-154	3	61
268	Selective Imaging of Late Endosomes with a pH-Sensitive Diazaoxatriangulene Fluorescent Probe. *Journal of the American Chemical Society*, **2016**, 138, 1752-5	16.4	60
267	Thin layer coulometry with ionophore based ion-selective membranes. *Analytical Chemistry*, **2010**, 82, 4537-42	7.8	60
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265	Response and Diffusion Behavior of Mobile and Covalently Immobilized H+-Ionophores in Polymeric Membrane Ion-Selective Electrodes. *Electroanalysis*, **2002**, 14, 1329-1338	3	59
264	Molecularly imprinted polymer microspheres containing photoswitchable spiropyran-based binding sites. *ACS Applied Materials & Interfaces*, **2013**, 5, 8537-45	9.5	56
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262	Quantitive binding constants of H(+)-selective chromoionophores and anion ionophores in solvent polymeric sensing membranes. *Talanta*, **2002**, 58, 909-18	6.2	55
261	Mass-produced lonophore-based fluorescent microspheres for trace level determination of lead ions. *Analytical Chemistry*, **2002**, 74, 5251-6	7.8	53
260	Multicolor quantum dot encoding for polymeric particle-based optical ion sensors. *Analytical Chemistry*, **2007**, 79, 3716-23	7.8	52
259	Extraction Thermodynamics of Polyanions into Plasticized Polymer Membranes Doped with Lipophilic Ion Exchangers: A Potentiometric Study. *Macromolecules*, **1995**, 28, 5834-5840	5.5	52
258	Ultrasmall fluorescent ion-exchanging nanospheres containing selective ionophores. *Analytical Chemistry*, **2013**, 85, 9932-8	7.8	51
257	Reversible sensing of the anticoagulant heparin with protamine permselective membranes. *Angewandte Chemie - International Edition*, **2012**, 51, 12575-8	16.4	51
256	Optical determination of ionophore diffusion coefficients in plasticized poly(vinyl chloride) sensing films. *Analytica Chimica Acta*, **2004**, 511, 91-95	6.6	51

255	Monodisperse plasticized poly(vinyl chloride) fluorescent microspheres for selective ionophore-based sensing and extraction. *Analytical Chemistry*, **2001**, 73, 6083-7	7.8	51
254	Spectroscopic in Situ Imaging of Acid Coextraction Processes in Solvent Polymeric Ion-Selective Electrode and Optode Membranes. *Analytical Chemistry*, **1998**, 70, 1176-1181	7.8	51
253	Ion-Selective Electrodes Based on Two Competitive Ionophores for Determining Effective Stability Constants of Ion□Carrier Complexes in Solvent Polymeric Membranes. *Analytical Chemistry*, **1998**, 70, 295-302	7.8	51
252	Applicability of the phase boundary potential model to the mechanistic understanding of solvent polymeric membrane-based ion-selective electrodes. *Electroanalysis*, **1995**, 7, 817-822	3	51
251	Ferrocene bound poly(vinyl chloride) as ion to electron transducer in electrochemical ion sensors. *Analytical Chemistry*, **2010**, 82, 6887-94	7.8	49
250	Selectivity behavior and multianalyte detection capability of voltammetric ionophore-based plasticized polymeric membrane sensors. *Analytical Chemistry*, **2001**, 73, 80-90	7.8	49
249	Renewable pH cross-sensitive potentiometric heparin sensors with incorporated electrically charged H+ ionophores. *Analytical Chemistry*, **1999**, 71, 4614-21	7.8	49
248	Spatial and spectral imaging of single micrometer-sized solvent cast fluorescent plasticized poly(vinyl chloride) sensing particles. *Analytical Chemistry*, **2001**, 73, 315-20	7.8	48
247	Enhancing ion-selective polymeric membrane electrodes by instrumental control. *TrAC - Trends in Analytical Chemistry*, **2014**, 53, 98-105	14.6	45
246	A copolymerized dodecacarborane anion as covalently attached cation exchanger in ion-selective sensors. *Analytical Chemistry*, **2003**, 75, 6002-10	7.8	45
245	Dynamic diffusion model for tracing the real-time potential response of polymeric membrane ion-selective electrodes. *Analytical Chemistry*, **2004**, 76, 6402-9	7.8	45
244	Cross-linked dodecyl acrylate microspheres: novel matrices for plasticizer-free optical ion sensing. *Analytica Chimica Acta*, **2001**, 442, 25-33	6.6	45
243	Detection limit of polymeric membrane potentiometric ion sensors: how can we go down to trace levels?. *Analytica Chimica Acta*, **1999**, 397, 103-111	6.6	45
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241	Mechanistic insights into the development of optical chloride sensors based on the [9]mercuracarborand-3 ionophore. *Analytical Chemistry*, **2003**, 75, 133-40	7.8	44
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233	Potentiometric sensors with ion-exchange Donnan exclusion membranes. *Analytical Chemistry*, **2013**, 85, 6208-12	7.8	41
232	Direct sensing of total acidity by chronopotentiometric flash titrations at polymer membrane ion-selective electrodes. *Analytical Chemistry*, **2008**, 80, 3743-50	7.8	41
231	Polyurethane Ionophore-Based Thin Layer Membranes for Voltammetric Ion Activity Sensing. *Analytical Chemistry*, **2016**, 88, 5649-54	7.8	41
230	Calcium pulstrodes with 10-fold enhanced sensitivity for measurements in the physiological concentration range. *Analytical Chemistry*, **2006**, 78, 2744-51	7.8	40
229	Dynamic electrochemistry with ionophore based ion-selective membranes. *RSC Advances*, **2013**, 3, 25461	3.7	39
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222	Imaging fiber microarray fluorescent ion sensors based on bulk optode microspheres. *Analytica Chimica Acta*, **2005**, 532, 61-69	6.6	38
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218	Influence of nonionic surfactants on the potentiometric response of hydrogen ion-selective polymeric membrane electrodes. *Analytical Chemistry*, **1996**, 68, 1623-31	7.8	37
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214	In Situ Ammonium Profiling Using Solid-Contact Ion-Selective Electrodes in Eutrophic Lakes. *Analytical Chemistry*, **2015**, 87, 11990-7	7.8	36
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209	Amplified potentiometric transduction of DNA hybridization using ion-loaded liposomes. *Analyst, The*, **2010**, 135, 1618-23	5	35
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205	A label-free potentiometric sensor principle for the detection of antibody-antigen interactions. *Analytical Chemistry*, **2013**, 85, 4770-6	7.8	33
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194	Colorimetric Readout for Potentiometric Sensors with Closed Bipolar Electrodes. *Analytical Chemistry*, **2018**, 90, 6376-6379	7.8	31
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183	Exhaustive thin-layer cyclic voltammetry for absolute multianalyte halide detection. *Analytical Chemistry*, **2014**, 86, 11387-95	7.8	28
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181	Limitations of current polarization for lowering the detection limit of potentiometric polymeric membrane sensors. *Analytical Chemistry*, **2009**, 81, 3592-9	7.8	28
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