

David R Walt

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

136
papers

6,682
citations

41
h-index

79
g-index

159
ext. papers

8,315
ext. citations

10.7
avg, IF

6.24
L-index

#	Paper	IF	Citations
136	Severe Acute Respiratory Syndrome Coronavirus 2 Antigens as Targets of Antibody Responses.. <i>Clinics in Laboratory Medicine</i> , 2022 , 42, 97-109	2.1	
135	Zonulin Antagonist, Larazotide (AT1001), As an Adjuvant Treatment for Multisystem Inflammatory Syndrome in Children: A Case Series. 2022 , 10, e0641		1
134	Ectopic Lymphoid Follicle Formation and Human Seasonal Influenza Vaccination Responses Recapitulated in an Organ-on-a-Chip.. <i>Advanced Science</i> , 2022 , e2103241	13.6	6
133	New views of old proteins: clarifying the enigmatic proteome. <i>Molecular and Cellular Proteomics</i> , 2022 , 100254	7.6	0
132	SARS-CoV-2 mRNA Vaccines in Allogeneic Hematopoietic Stem Cell Transplant Recipients: Immunogenicity and Reactogenicity. <i>Clinical Infectious Diseases</i> , 2021 ,	11.6	2
131	Donor Clonal Hematopoiesis and Recipient Outcomes After Transplantation. <i>Journal of Clinical Oncology</i> , 2021 , JCO2102286	2.2	5
130	Framework for rapid comparison of extracellular vesicle isolation methods. <i>ELife</i> , 2021 , 10,	8.9	9
129	A Modular Biomaterial Scaffold-Based Vaccine Elicits Durable Adaptive Immunity to Subunit SARS-CoV-2 Antigens. <i>Advanced Healthcare Materials</i> , 2021 , 10, e2101370	10.1	2
128	Ultrasensitive Measurement of Both SARS-CoV-2 RNA and Antibodies from Saliva. <i>Analytical Chemistry</i> , 2021 , 93, 5365-5370	7.8	9
127	Protective heterologous T cell immunity in COVID-19 induced by MMR and Tdap vaccine antigens 2021 ,		2
126	Circulating SARS-CoV-2 Vaccine Antigen Detected in the Plasma of mRNA-1273 Vaccine Recipients. <i>Clinical Infectious Diseases</i> , 2021 ,	11.6	43
125	The American lobster genome reveals insights on longevity, neural, and immune adaptations. <i>Science Advances</i> , 2021 , 7,	14.3	6
124	L1CAM is not associated with extracellular vesicles in human cerebrospinal fluid or plasma. <i>Nature Methods</i> , 2021 , 18, 631-634	21.6	30
123	Evaluation of serological lateral flow assays for severe acute respiratory syndrome coronavirus-2. <i>BMC Infectious Diseases</i> , 2021 , 21, 580	4	9
122	Multisystem inflammatory syndrome in children is driven by zonulin-dependent loss of gut mucosal barrier. <i>Journal of Clinical Investigation</i> , 2021 , 131,	15.9	46
121	Evaluation of Three Commercial and Two Non-Commercial Immunoassays for the Detection of Prior Infection to SARS-CoV-2. <i>journal of applied laboratory medicine, The</i> , 2021 , 6, 1561-1570	2	4
120	Sequential Protein Capture in Multiplex Single Molecule Arrays: A Strategy for Eliminating Assay Cross-Reactivity. <i>Advanced Healthcare Materials</i> , 2021 , 10, e2001111	10.1	6

119	Activity of mRNA COVID-19 vaccines in patients with lymphoid malignancies. <i>Blood Advances</i> , 2021 , 5, 3062-3065	7.8	11
118	Single-Molecule Enzymology for Diagnostics: Profiling Alkaline Phosphatase Activity in Clinical Samples. <i>ChemBioChem</i> , 2021 ,	3.8	1
117	Protective heterologous T _H cell immunity in COVID-19 induced by the trivalent MMR and Tdap vaccine antigens. <i>Med</i> , 2021 , 2, 1050-1071.e7	31.7	10
116	A SARS-CoV-2 Neutralization Assay Using Single Molecule Arrays. <i>Angewandte Chemie - International Edition</i> , 2021 , 60, 25966-25972	16.4	2
115	Ultrasensitive Detection of Attomolar Protein Concentrations by Dropcast Single Molecule Assays. <i>Journal of the American Chemical Society</i> , 2020 , 142, 12314-12323	16.4	36
114	Single-Molecule Analysis Determines Isozymes of Human Alkaline Phosphatase in Serum. <i>Angewandte Chemie</i> , 2020 , 132, 18166-18171	3.6	1
113	Single-Molecule Analysis Determines Isozymes of Human Alkaline Phosphatase in Serum. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 18010-18015	16.4	11
112	Simultaneous detection of small molecules, proteins and microRNAs using single molecule arrays. <i>Chemical Science</i> , 2020 , 11, 7896-7903	9.4	16
111	Single Molecule Protein Detection with Attomolar Sensitivity Using Droplet Digital Enzyme-Linked Immunosorbent Assay. <i>ACS Nano</i> , 2020 , 14, 9491-9501	16.7	42
110	Single-Molecule Arrays for Ultrasensitive Detection of Blood-Based Biomarkers for Immunotherapy. <i>Methods in Molecular Biology</i> , 2020 , 2055, 399-412	1.4	0
109	Ultra-Sensitive High-Resolution Profiling of Anti-SARS-CoV-2 Antibodies for Detecting Early Seroconversion in COVID-19 Patients 2020 ,		18
108	Evaluation of two commercial and two non-commercial immunoassays for the detection of prior infection to SARS-CoV-2 2020 ,		7
107	Plasma IL-6 changes correlate to PD-1 inhibitor responses in NSCLC 2020 , 8,		24
106	Simplified Digital Enzyme-Linked Immunosorbent Assay Using Tyramide Signal Amplification and Fibrin Hydrogels. <i>ACS Sensors</i> , 2020 , 5, 3037-3042	9.2	12
105	Systems Biology Methods Applied to Blood and Tissue for a Comprehensive Analysis of Immune Response to Hepatitis B Vaccine in Adults. <i>Frontiers in Immunology</i> , 2020 , 11, 580373	8.4	8
104	Can mHealth Technology Help Mitigate the Effects of the COVID-19 Pandemic?. <i>IEEE Open Journal of Engineering in Medicine and Biology</i> , 2020 , 1, 243-248	5.9	33
103	Ultrasensitive Detection of Enzymatic Activity Using Single Molecule Arrays. <i>Journal of the American Chemical Society</i> , 2020 , 142, 15098-15106	16.4	6
102	Ultrasensitive high-resolution profiling of early seroconversion in patients with COVID-19. <i>Nature Biomedical Engineering</i> , 2020 , 4, 1180-1187	19	70

101	Ultra-Sensitive Serial Profiling of SARS-CoV-2 Antigens and Antibodies in Plasma to Understand Disease Progression in COVID-19 Patients with Severe Disease. <i>Clinical Chemistry</i> , 2020 , 66, 1562-1572	5.5	59
100	Hypothermic Ex Situ Perfusion of Human Limbs With Acellular Solution for 24 Hours. <i>Transplantation</i> , 2020 , 104, e260-e270	1.8	4
99	Single-Molecule Mechanistic Study of Enzyme Hysteresis. <i>ACS Central Science</i> , 2019 , 5, 1691-1698	16.8	11
98	Accumulation mechanism of indigo and indirubin in <i>Polygonum tinctorium</i> revealed by metabolite and transcriptome analysis. <i>Industrial Crops and Products</i> , 2019 , 141, 111783	5.9	7
97	Protein Detection by Counting Molecules. <i>Clinical Chemistry</i> , 2019 , 65, 809-810	5.5	3
96	Highly Sensitive and Multiplexed Protein Measurements. <i>Chemical Reviews</i> , 2019 , 119, 293-321	68.1	98
95	A rapid triage test for active pulmonary tuberculosis in adult patients with persistent cough. <i>Science Translational Medicine</i> , 2019 , 11,	17.5	27
94	Clinical testing should be individualized, not based on populations. <i>Journal of Clinical Investigation</i> , 2019 , 129, 3472-3473	15.9	3
93	Single-molecule measurements in microwells for clinical applications. <i>Critical Reviews in Clinical Laboratory Sciences</i> , 2019 , 1-21	9.4	12
92	Impact of clinical sample handling and processing on ultra-low level measurements of plasma cytokines. <i>Clinical Biochemistry</i> , 2019 , 65, 38-44	3.5	11
91	Detection of amyloid β oligomers toward early diagnosis of Alzheimer's disease. <i>Analytical Biochemistry</i> , 2019 , 566, 40-45	3.1	16
90	How many human proteoforms are there?. <i>Nature Chemical Biology</i> , 2018 , 14, 206-214	11.7	324
89	Ultrasensitive Single-Molecule Enzyme Detection and Analysis Using a Polymer Microarray. <i>Analytical Chemistry</i> , 2018 , 90, 3091-3098	7.8	15
88	Single Molecule Arrays for ultra-sensitive detection of rat cytokines in serum. <i>Journal of Immunological Methods</i> , 2018 , 452, 20-25	2.5	7
87	Bottom-up single-molecule strategy for understanding subunit function of tetrameric β -galactosidase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 8346-8351	11.5	7
86	Finding useful biomarkers for Parkinson's disease. <i>Science Translational Medicine</i> , 2018 , 10,	17.5	69
85	Competitive Immunoassays for the Detection of Small Molecules Using Single Molecule Arrays. <i>Journal of the American Chemical Society</i> , 2018 , 140, 18132-18139	16.4	55
84	Evaluation of Antibody Biotinylation Approaches for Enhanced Sensitivity of Single Molecule Array (Simoa) Immunoassays. <i>Bioconjugate Chemistry</i> , 2018 , 29, 3452-3458	6.3	10

83	Single-Molecule Arrays for Protein and Nucleic Acid Analysis. <i>Annual Review of Analytical Chemistry</i> , 2017 , 10, 345-363	12.5	64
82	Long-Term Measurements of Human Inflammatory Cytokines Reveal Complex Baseline Variations between Individuals. <i>American Journal of Pathology</i> , 2017 , 187, 2620-2626	5.8	22
81	Using Next-Generation Sequencing to Explore Genetics and Race in the High School Classroom. <i>CBE Life Sciences Education</i> , 2017 , 16,	3.4	6
80	Digital direct detection of microRNAs using single molecule arrays. <i>Nucleic Acids Research</i> , 2017 , 45, e1370.1	7.0	59
79	Parkinson's disease biomarkers: perspective from the NINDS Parkinson's Disease Biomarkers Program. <i>Biomarkers in Medicine</i> , 2017 , 11, 451-473	2.3	33
78	Rapid and ultrasensitive detection of botulinum neurotoxin serotype A1 in human serum and urine using single-molecule array method. <i>Forensic Toxicology</i> , 2017 , 35, 179-184	2.6	10
77	Development of a Rapid Salivary Proteomic Platform for Oral Feeding Readiness in the Preterm Newborn. <i>Frontiers in Pediatrics</i> , 2017 , 5, 268	3.4	6
76	Incorporation of Slow Off-Rate Modified Aptamers Reagents in Single Molecule Array Assays for Cytokine Detection with Ultrahigh Sensitivity. <i>Analytical Chemistry</i> , 2016 , 88, 8385-9	7.8	26
75	Personal microbiomes and next-generation sequencing for laboratory-based education. <i>FEMS Microbiology Letters</i> , 2016 , 363,	2.9	8
74	Using Antigen-antibody Binding Kinetic Parameters to Understand Single-Molecule Array Immunoassay Performance. <i>Analytical Chemistry</i> , 2016 , 88, 11335-11339	7.8	14
73	Protein Counting in Single Cancer Cells. <i>Analytical Chemistry</i> , 2016 , 88, 2952-7	7.8	33
72	Ultra-sensitive protein detection via Single Molecule Arrays towards early stage cancer monitoring. <i>Scientific Reports</i> , 2015 , 5, 11034	4.9	34
71	Single-molecule arrays for ultrasensitive detection of host immune response to dengue virus infection. <i>Journal of Clinical Microbiology</i> , 2015 , 53, 1722-4	9.7	15
70	Salivary diagnostics using a portable point-of-service platform: a review. <i>Clinical Therapeutics</i> , 2015 , 37, 498-504	3.5	15
69	Single molecule array (Simoa) assay with optimal antibody pairs for cytokine detection in human serum samples. <i>Analyst, The</i> , 2015 , 140, 6277-82	5	51
68	Correlations of salivary biomarkers with clinical assessments in patients with cystic fibrosis. <i>PLoS ONE</i> , 2015 , 10, e0135237	3.7	14
67	Fiber-optic array using molecularly imprinted microspheres for antibiotic analysis. <i>Chemical Science</i> , 2015 , 6, 3139-3147	9.4	36
66	Ultrasensitive Detection of Ricin Toxin in Multiple Sample Matrixes Using Single-Domain Antibodies. <i>Analytical Chemistry</i> , 2015 , 87, 6570-7	7.8	35

65	Stoichiometry of the complementation reaction of Escherichia coli β -galactosidase as revealed through single-molecule studies. <i>Biochemistry</i> , 2015 , 54, 1583-8	3.2	7
64	Catalytic kinetics of single gold nanoparticles observed via optical microwell arrays. <i>Nanotechnology</i> , 2015 , 26, 055704	3.4	6
63	An automated integrated platform for rapid and sensitive multiplexed protein profiling using human saliva samples. <i>Lab on A Chip</i> , 2014 , 14, 1087-98	7.2	49
62	Elucidating the relationship between substrate and inhibitor binding to the active sites of tetrameric β -galactosidase. <i>Chemical Science</i> , 2014 , 5, 4467-4473	9.4	9
61	Protein measurements in microwells. <i>Lab on A Chip</i> , 2014 , 14, 3195-200	7.2	28
60	Disease detection by ultrasensitive quantification of microdosed synthetic urinary biomarkers. <i>Journal of the American Chemical Society</i> , 2014 , 136, 13709-14	16.4	40
59	Observing single enzyme molecules interconvert between activity states upon heating. <i>PLoS ONE</i> , 2014 , 9, e86224	3.7	14
58	Advancing the speed, sensitivity and accuracy of biomolecular detection using multi-length-scale engineering. <i>Nature Nanotechnology</i> , 2014 , 9, 969-80	28.7	284
57	Salivary inflammatory mediator profiling and correlation to clinical disease markers in asthma. <i>PLoS ONE</i> , 2014 , 9, e84449	3.7	25
56	Genome-wide SNP-genotyping array to study the evolution of the human pathogen <i>Vibrio vulnificus</i> biotype 3. <i>PLoS ONE</i> , 2014 , 9, e114576	3.7	14
55	Multiplexed salivary protein profiling for patients with respiratory diseases using fiber-optic bundles and fluorescent antibody-based microarrays. <i>Analytical Chemistry</i> , 2013 , 85, 9272-80	7.8	24
54	Direct detection of bacterial genomic DNA at sub-femtomolar concentrations using single molecule arrays. <i>Analytical Chemistry</i> , 2013 , 85, 1932-9	7.8	57
53	Optical methods for single molecule detection and analysis. <i>Analytical Chemistry</i> , 2013 , 85, 1258-63	7.8	137
52	Multiplexed fluorescent microarray for human salivary protein analysis using polymer microspheres and fiber-optic bundles. <i>Journal of Visualized Experiments</i> , 2013 ,	1.6	4
51	Oil-sealed femtoliter fiber-optic arrays for single molecule analysis. <i>Lab on A Chip</i> , 2012 , 12, 2229-39	7.2	34
50	Robust error correction in infofuses. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2012 , 468, 361-377	2.4	
49	Lessons learned from the introduction of personalized genotyping into a medical school curriculum. <i>Genetics in Medicine</i> , 2011 , 13, 63-6	8.1	49
48	Single-molecule enzyme-linked immunosorbent assay detects serum proteins at subfemtomolar concentrations. <i>Nature Biotechnology</i> , 2010 , 28, 595-9	44.5	1152

47	Synthesis and Biological Testing of Penicillins: An Investigative Approach to the Undergraduate Teaching Laboratory. <i>Journal of Chemical Education</i> , 2010 , 87, 634-636	2.4	7
46	Fibre optic microarrays. <i>Chemical Society Reviews</i> , 2010 , 39, 38-50	58.5	87
45	Analytical chemistry on the femtoliter scale. <i>Angewandte Chemie - International Edition</i> , 2010 , 49, 3880-3884	56.4	62
44	Bead-based optical fiber arrays for artificial olfaction. <i>Current Opinion in Chemical Biology</i> , 2010 , 14, 767-770	39	22
43	CMOS Microelectrode Array for Electrochemical Lab-on-a-Chip Applications. <i>IEEE Sensors Journal</i> , 2009 , 9, 609-615	4	49
42	Mechanistic aspects of horseradish peroxidase elucidated through single-molecule studies. <i>Journal of the American Chemical Society</i> , 2009 , 131, 6277-82	16.4	113
41	Ubiquitous sensors: when will they be here?. <i>ACS Nano</i> , 2009 , 3, 2876-80	16.7	27
40	Microsphere-based rolling circle amplification microarray for the detection of DNA and proteins in a single assay. <i>Analytical Chemistry</i> , 2009 , 81, 5777-82	7.8	72
39	Distinct and long-lived activity states of single enzyme molecules. <i>Journal of the American Chemical Society</i> , 2008 , 130, 5349-53	16.4	104
38	Detection of single-molecule DNA hybridization using enzymatic amplification in an array of femtoliter-sized reaction vessels. <i>Journal of the American Chemical Society</i> , 2008 , 130, 12622-3	16.4	62
37	Optical-fiber bundles. <i>FEBS Journal</i> , 2007 , 274, 5462-70	5.7	41
36	Microsensor arrays for saliva diagnostics. <i>Annals of the New York Academy of Sciences</i> , 2007 , 1098, 389-405	40	33
35	Stochastic inhibitor release and binding from single-enzyme molecules. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 17680-5	11.5	103
34	Digital concentration readout of single enzyme molecules using femtoliter arrays and Poisson statistics. <i>Nano Letters</i> , 2006 , 6, 520-3	11.5	143
33	Digital readout of target binding with attomole detection limits via enzyme amplification in femtoliter arrays. <i>Journal of the American Chemical Society</i> , 2006 , 128, 6286-7	16.4	79
32	Duplexed sandwich immunoassays on a fiber-optic microarray. <i>Analytica Chimica Acta</i> , 2006 , 564, 34-9	6.6	39
31	Progress toward the determination of Sr ²⁺ in highly basic solutions using imaging optical fiber sensor arrays. <i>Journal of Materials Chemistry</i> , 2005 , 15, 4361		4
30	Synthesis of gold@poly(methyl methacrylate) core-shell nanoparticles by surface-confined atom transfer radical polymerization at elevated temperature. <i>Journal of Polymer Science Part A</i> , 2005 , 43, 3631-3642	2.5	52

29	Chemistry. Miniature analytical methods for medical diagnostics. <i>Science</i> , 2005 , 308, 217-9	33.3	102
28	An imaging fiber-based optical tweezer array for microparticle array assembly. <i>Applied Physics Letters</i> , 2004 , 84, 4289-4291	3.4	37
27	Cross-Reactive Optical Sensing Arrays. <i>ACS Symposium Series</i> , 2002 , 318-329	0.4	3
26	Imaging optical sensor arrays. <i>Current Opinion in Chemical Biology</i> , 2002 , 6, 689-95	9.7	43
25	Randomly-Ordered High-Density Fiber Optic Microsensor Array Sensors. <i>ACS Symposium Series</i> , 2002 , 129-148	0.4	1
24	Nanosphere/Microsphere Assembly: Methods for Core/Shell Materials Preparation. <i>Chemistry of Materials</i> , 2001 , 13, 2210-2216	9.6	219
23	Novel Colloidal Assembly Methods for the Preparation of Core-Shell Composite Materials. <i>Materials Research Society Symposia Proceedings</i> , 2000 , 636, 9171		
22	Screening unlabeled DNA targets with randomly ordered fiber-optic gene arrays. <i>Nature Biotechnology</i> , 2000 , 18, 91-4	44.5	250
21	A combinatorial approach to discover new chelators for optical metal ion sensing. <i>Analytical Chemistry</i> , 2000 , 72, 5250-7	7.8	61
20	Fluorescent excitation transfer immunoassay for the determination of spinosyn A in water. <i>Journal of Agricultural and Food Chemistry</i> , 1999 , 47, 2766-70	5.7	6
19	An Autonomous Sensor and Telemetry System for Low-Level pCO ₂ Measurements in Seawater. <i>Analytical Chemistry</i> , 1999 , 71, 154-61	7.8	38
18	Convergent, self-encoded bead sensor arrays in the design of an artificial nose. <i>Analytical Chemistry</i> , 1999 , 71, 2192-8	7.8	158
17	An olfactory neuronal network for vapor recognition in an artificial nose. <i>Biological Cybernetics</i> , 1998 , 78, 245-51	2.8	51
16	Randomly ordered addressable high-density optical sensor arrays. <i>Analytical Chemistry</i> , 1998 , 70, 1242-8	7.8	287
15	The Use of Optical-Imaging Fibers for the Fabrication of Array Sensors. <i>ACS Symposium Series</i> , 1998 , 273-289	2.8	3
14	Toward a near-field optical array. <i>Review of Scientific Instruments</i> , 1997 , 68, 1357-1359	1.7	38
13	Oxygen Sensing Properties of a New Ruthenium (II) Compound. <i>Analytical Letters</i> , 1997 , 30, 2289-2299	2.2	4
12	Fluorescence monitoring of the microenvironmental pH of highly charged polymers. <i>Journal of Polymer Science Part A</i> , 1997 , 35, 2105-2110	2.5	13

11	Ordered Nanowell Arrays. <i>Chemistry of Materials</i> , 1996 , 8, 2832-2835	9.6	133
10	A chemical-detecting system based on a cross-reactive optical sensor array. <i>Nature</i> , 1996 , 382, 697-700	50.4	349
9	A Fiber-Optic Carbon Dioxide Sensor for Fermentation Monitoring. <i>Nature Biotechnology</i> , 1995 , 13, 597-601	44.5	31
8	Self-Regenerating Fiber-Optic Sensors. <i>ACS Symposium Series</i> , 1995 , 186-196	0.4	
7	Fiber-Optic Sensors Based on Degradable Polymers. <i>ACS Symposium Series</i> , 1994 , 21-33	0.4	
6	Fiber-optic sensor for continuous monitoring of fermentation pH. <i>Nature Biotechnology</i> , 1993 , 11, 726-9	44.5	20
5	Optical Immunosensors Using Controlled- Release Polymers. <i>ACS Symposium Series</i> , 1992 , 310-320	0.4	2
4	pH-Dependent fluorescence and singlet energy transfer in water-soluble polymers containing eosin and phenol red chromophores. <i>Journal of Fluorescence</i> , 1992 , 2, 231-5	2.4	3
3	A fibre-optic chemical sensor with discrete sensing sites. <i>Nature</i> , 1991 , 353, 338-340	50.4	77
2	Optical Electronic Noses	181-199	
1	Performance of three rapid antigen tests against the SARS-CoV-2 Omicron variant		1