Tza-Huei Wang

List of Publications by Year
in descending order

135 papers	4,933 citations	117625 34 h-index	102487 66 g-index
142 all docs	142 docs citations	142 times ranked	6635 citing authors

#	Article	IF	Citations
1	Cancer Cell Membraneâ€Coated Upconversion Nanoprobes for Highly Specific Tumor Imaging. Advanced Materials, 2016, 28, 3460-3466.	21.0	420
2	Red Blood Cell Membrane as a Biomimetic Nanocoating for Prolonged Circulation Time and Reduced Accelerated Blood Clearance. Small, 2015, 11, 6225-6236.	10.0	353
3	Advances in microfluidic PCR for point-of-care infectious disease diagnostics. Biotechnology Advances, 2011, 29, 830-839.	11.7	256
4	Electrokinetics in Micro Devices for Biotechnology Applications. IEEE/ASME Transactions on Mechatronics, 2004, 9, 366-376.	5.8	210
5	New and developing diagnostic technologies for urinary tract infections. Nature Reviews Urology, 2017, 14, 296-310.	3.8	195
6	Early Detection of Lung Cancer Using DNA Promoter Hypermethylation in Plasma and Sputum. Clinical Cancer Research, 2017, 23, 1998-2005.	7.0	193
7	A surface topography assisted droplet manipulation platform for biomarker detection and pathogen identification. Lab on A Chip, 2011, 11, 398-406.	6.0	155
8	Novel Methylation Biomarker Panel for the Early Detection of Pancreatic Cancer. Clinical Cancer Research, 2013, 19, 6544-6555.	7.0	129
9	Microfluidic continuous flow digital loop-mediated isothermal amplification (LAMP). Lab on A Chip, 2015, 15, 776-782.	6.0	122
10	Fullâ€Range Magnetic Manipulation of Droplets via Surface Energy Traps Enables Complex Bioassays. Advanced Materials, 2013, 25, 2903-2908.	21.0	118
11	Digital CRISPR/Casâ€Assisted Assay for Rapid and Sensitive Detection of SARSâ€CoVâ€2. Advanced Science, 2021, 8, 2003564.	11.2	116
12	Single-Molecule Tracing on a Fluidic Microchip for Quantitative Detection of Low-Abundance Nucleic Acids. Journal of the American Chemical Society, 2005, 127, 5354-5359.	13.7	114
13	Accelerating bacterial growth detection and antimicrobial susceptibility assessment in integrated picoliter droplet platform. Biosensors and Bioelectronics, 2017, 97, 260-266.	10.1	112
14	Topography-assisted electromagnetic platform for blood-to-PCR in a droplet. Biosensors and Bioelectronics, 2013, 50, 91-99.	10.1	89
15	Droplet microfluidics for amplification-free genetic detection of single cells. Lab on A Chip, 2012, 12, 3341.	6.0	81
16	A Biomimetic Nanodecoy Traps Zika Virus To Prevent Viral Infection and Fetal Microcephaly Development. Nano Letters, 2019, 19, 2215-2222.	9.1	69
17	Simple and Precise Counting of Viable Bacteria by Resazurin-Amplified Picoarray Detection. Analytical Chemistry, 2018, 90, 9449-9456.	6.5	65
18	Point-of-care CRISPR-Cas-assisted SARS-CoV-2 detection in an automated and portable droplet magnetofluidic device. Biosensors and Bioelectronics, 2021, 190, 113390.	10.1	65

#	Article	IF	Citations
19	Nanoarray Digital Polymerase Chain Reaction with High-Resolution Melt for Enabling Broad Bacteria Identification and Phenoâ€“Molecular Antimicrobial Susceptibility Test. Analytical Chemistry, 2019, 91, 12784-12792.	6.5	63
20	Investigating cone photoreceptor development using patient-derived NRL null retinal organoids. Communications Biology, 2020, 3, 82.	4.4	62
21	Integrated Bacterial Identification and Antimicrobial Susceptibility Testing Using PCR and High-Resolution Melt. Analytical Chemistry, 2017, 89, 11529-11536.	6.5	61
22	Droplet microfluidics for highâ€sensitivity and highâ€throughput detection and screening of disease biomarkers. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2018, 10, e1522.	6.1	60
23	An all-in-one microfluidic device for parallel DNA extraction and gene analysis. Biomedical Microdevices, 2010, 12, 1043-1049.	2.8	58
24	Detection of Promoter DNA Methylation in Urine and Plasma Aids the Detection of Nonâ€“Small Cell Lung Cancer. Clinical Cancer Research, 2020, 26, 4339-4348.	7.0	57
25	Microfluidic platform for on-demand generation of spatially indexed combinatorial droplets. Lab on A Chip, 2012, 12, 3055.	6.0	53
26	Decoding Circulating Nucleic Acids in Human Serum Using Microfluidic Single Molecule Spectroscopy. Journal of the American Chemical Society, 2010, 132, 5793-5798.	13.7	50
27	Sample-to-Answer Droplet Magnetofluidic Platform for Point-of-Care Hepatitis C Viral Load Quantitation. Scientific Reports, 2018, 8, 9793.	3.3	49
28	Magnetic Droplet Manipulation Platforms for Nucleic Acid Detection at the Point of Care. Annals of Biomedical Engineering, 2014, 42, 2289-2302.	2.5	48
29	DREAMing: a simple and ultrasensitive method for assessing intratumor epigenetic heterogeneity directly from liquid biopsies. Nucleic Acids Research, 2015, 43, e154-e154.	14.5	48
30	Single-cell transcriptomic reveals molecular diversity and developmental heterogeneity of human stem cell-derived oligodendrocyte lineage cells. Nature Communications, 2021, 12, 652.	12.8	47
31	Trainable High Resolution Melt Curve Machine Learning Classifier for Large-Scale Reliable Genotyping of Sequence Variants. PLoS ONE, 2014, 9, e109094.	2.5	47
32	Extraction and processing of circulating DNA from large sample volumes using methylation on beads for the detection of rare epigenetic events. Clinica Chimica Acta, 2013, 425, 169-175.	1.1	45
33	Emerging Analytical Techniques for Rapid Pathogen Identification and Susceptibility Testing. Annual Review of Analytical Chemistry, 2019, 12, 41-67.	5.4	45
34	Molecular rheotaxis directs DNA migration and concentration against a pressure-driven flow. Nature Communications, 2017, 8, 1213.	12.8	41
35	A portable magnetofluidic platform for detecting sexually transmitted infections and antimicrobial susceptibility. Science Translational Medicine, 2021, 13, .	12.4	41
36	Facile profiling of molecular heterogeneity by microfluidic digital melt. Science Advances, 2018, 4, eaat6459.	10.3	37

#	Article	IF	Citations
37	Long Interspersed Nuclear Element 1 Retrotransposons Become Deregulated during the Development of Ovarian Cancer Precursor Lesions. American Journal of Pathology, 2019, 189, 513-520.	3.8	35
38	Cylindrical Illumination Confocal Spectroscopy: Rectifying the Limitations of Confocal Single Molecule Spectroscopy through One-Dimensional Beam Shaping. Biophysical Journal, 2008, 95, 2964-2975.	0.5	34
39	Nested Machine Learning Facilitates Increased Sequence Content for Large-Scale Automated High Resolution Melt Genotyping. Scientific Reports, 2016, 6, 19218.	3.3	34
40	Single-Molecule Analysis Enables Free Solution Hydrodynamic Separation Using Yoctomole Levels of DNA. Journal of the American Chemical Society, 2011, 133, 6898-6901.	13.7	33
41	A Barcode-Free Combinatorial Screening Platform for Matrix Metalloproteinase Screening. Analytical Chemistry, 2015, 87, 1950-1956.	6.5	33
42	Elimination of Ligation Dependent Artifacts in T4 RNA Ligase to Achieve High Efficiency and Low Bias MicroRNA Capture. PLoS ONE, 2014, 9, e94619.	2.5	33
43	Universal digital high-resolution melt: a novel approach to broad-based profiling of heterogeneous biological samples. Nucleic Acids Research, 2013, 41, e175-e175.	14.5	32
44	Novel droplet platforms for the detection of disease biomarkers. Expert Review of Molecular Diagnostics, 2014, 14, 787-801.	3.1	30
45	Applying biosensor development concepts to improve preamplification-free CRISPR/Cas12a-Dx. Analyst, The, 2020, 145, 4880-4888.	3.5	30
46	Analysis of single nucleic acid molecules in micro- and nano-fluidics. Lab on A Chip, 2016, 16, 790-811.	6.0	29
47	Dropletâ€Based Singleâ€Cell Measurements of 16S rRNA Enable Integrated Bacteria Identification and Phenoâ€Molecular Antimicrobial Susceptibility Testing from Clinical Samples in 30Âmin. Advanced Science, 2021, 8, 2003419.	11.2	29
48	Droplet Digital Enzyme-Linked Oligonucleotide Hybridization Assay for Absolute RNA Quantification. Scientific Reports, 2015, 5, 13795.	3.3	28
49	Optimizing peptide nucleic acid probes for hybridization-based detection and identification of bacterial pathogens. Analyst, The, 2019, 144, 1565-1574.	3.5	27
50	Direct Interrogation of DNA Content Distribution in Nanoparticles by a Novel Microfluidics-Based Single-Particle Analysis. Nano Letters, 2014, 14, 4729-4735.	9.1	25
51	A Serial Sample Loading System: Interfacing Multiwell Plates with Microfluidic Devices. Journal of the Association for Laboratory Automation, 2012, 17, 370-377.	2.8	23
52	A droplet microfluidic approach to single-stream nucleic acid isolation and mutation detection. Microfluidics and Nanofluidics, 2014, 17, 425-430.	2.2	22
53	A parallelized microfluidic DNA bisulfite conversion module for streamlined methylation analysis. Biomedical Microdevices, 2016, 18, 5.	2.8	22
54	Prognostic Value of Survival of MicroRNAs Signatures in Non-small Cell Lung Cancer. Journal of Cancer, 2019, 10, 5793-5804.	2.5	22

#	Article	IF	Citations
55	A â€œCultureâ€•Shift: Broad Bacterial Detection, Identification, and Antimicrobial Susceptibility Testing Directly from Whole Blood. Clinical Chemistry, 2018, 64, 1453-1462.	3.2	21
56	Widespread gene transfer to malignant gliomas with In vitro-to-In vivo correlation. Journal of Controlled Release, 2019, 303, 1-11.	9.9	21
57	Nanotube assisted microwave electroporation for single cell pathogen identification and antimicrobial susceptibility testing. Nanomedicine: Nanotechnology, Biology, and Medicine, 2019, 17, 246-253.	3.3	21
58	Direct-qPCR Assay for Coupled Identification and Antimicrobial Susceptibility Testing of Neisseria gonorrhoeae. ACS Infectious Diseases, 2018, 4, 1377-1384.	3.8	20
59	Customizing droplet contents and dynamic ranges via integrated programmable picodroplet assembler. Microsystems and Nanoengineering, 2019, 5, 22.	7.0	20
60	Single Molecule Hydrodynamic Separation Allows Sensitive and Quantitative Analysis of DNA Conformation and Binding Interactions in Free Solution. Journal of the American Chemical Society, 2016, 138, 319-327.	13.7	19
61	Defining, distinguishing and detecting the contribution of heterogeneous methylation to cancer heterogeneity. Seminars in Cell and Developmental Biology, 2017, 64, 5-17.	5.0	19
62	Combating Antimicrobial Resistance via Single-Cell Diagnostic Technologies Powered by Droplet Microfluidics. Accounts of Chemical Research, 2022, 55, 123-133.	15.6	19
63	Digital electrical impedance analysis for single bacterium sensing and antimicrobial susceptibility testing. Lab on A Chip, 2021, 21, 1073-1083.	6.0	18
64	Magnetofluidic immuno-PCR for point-of-care COVID-19 serological testing. Biosensors and Bioelectronics, 2022, 195, 113656.	10.1	18
65	Pointâ€ofâ€Care Platform for Rapid Multiplexed Detection of SARSâ€CoVâ€2 Variants and Respiratory Pathogens. Advanced Materials Technologies, 2022, 7, 2101013.	5.8	18
66	A Simple Thermoplastic Substrate Containing Hierarchical Silica Lamellae for Highâ€Molecularâ€Weight DNA Extraction. Advanced Materials, 2016, 28, 10630-10636.	21.0	17
67	Toward Decentralizing Antibiotic Susceptibility Testing via Ready-to-Use Microwell Array and Resazurin-Aided Colorimetric Readout. Analytical Chemistry, 2021, 93, 1260-1265.	6.5	17
68	A Cascaded Droplet Microfluidic Platform Enables Highâ€Throughput Single Cell Antibiotic Susceptibility Testing at Scale. Small Methods, 2022, 6, e2101254.	8.6	17
69	Ratiometric Fluorescence Coding for Multiplex Nucleic Acid Amplification Testing. Analytical Chemistry, 2018, 90, 12180-12186.	6.5	16
70	Highly Efficient Real-Time Droplet Analysis Platform for High-Throughput Interrogation of DNA Sequences by Melt. Analytical Chemistry, 2019, 91, 11275-11282.	6.5	14
71	Rab8 GTPase regulates Klotho-mediated inhibition of cell growth and progression by directly modulating its surface expression in human non-small cell lung cancer. EBioMedicine, 2019, 49, 118-132.	6.1	14
72	Determination of absolute expression profiles using multiplexed miRNA analysis. PLoS ONE, 2017, 12, e0180988.	2.5	14

#	Article	IF	Citations
73	Efficient synthesis of stably adenylated DNA and RNA adapters for microRNA capture using T4 RNA ligase 1. Scientific Reports, 2015, 5, 15620.	3.3	13
74	Rapid generation of chemical combinations on a magnetic digital microfluidic array. RSC Advances, 2019, 9, 21741-21747.	3.6	13
75	High resolution estimates of relative gene abundance with quantitative ratiometric regression PCR (qRR-PCR). Analyst, The, 2021, 146, 6463-6469.	3.5	13
76	Portable Magnetofluidic Device for Point-of-Need Detection of African Swine Fever. Analytical Chemistry, 2021, 93, 10940-10946.	6.5	13
77	Bridging the gap between development of point-of-care nucleic acid testing and patient care for sexually transmitted infections. Lab on A Chip, 2022, 22, 476-511.	6.0	13
78	A sample-to-answer droplet magnetofluidic assay platform for quantitative methylation-specific PCR. Biomedical Microdevices, 2018, 20, 31.	2.8	12
79	Combinatorial nanodroplet platform for screening antibiotic combinations. Lab on A Chip, 2022, 22, 621-631.	6.0	12
80	Programmable microfluidic genotyping of plant DNA samples for marker-assisted selection. Microsystems and Nanoengineering, 2018, 4, .	7.0	11
81	Facile Coupling of Droplet Magnetofluidic-Enabled Automated Sample Preparation for Digital Nucleic Acid Amplification Testing and Analysis. Analytical Chemistry, 2020, 92, 13254-13261.	6.5	11
82	Facile syringe filter-enabled bacteria separation, enrichment, and buffer exchange for clinical isolation-free digital detection and characterization of bacterial pathogens in urine. Analyst, The, 2021, 146, 2475-2483.	3.5	11
83	Filtration-assisted magnetofluidic cartridge platform for HIV RNA detection from blood. Lab on A Chip, 2022, 22, 945-953.	6.0	11
84	Pressure induced lung injury in a novel in vitro model of the alveolar interface: Protective effect of dexamethasone. Journal of Pediatric Surgery, 2014, 49, 61-65.	1.6	10
85	Fluorescence spectroscopic detection and measurement of single telomere molecules. Nucleic Acids Research, 2018, 46, e117-e117.	14.5	10
86	RNA markers for ultra-rapid molecular antimicrobial susceptibility testing in fluoroquinolone-treated Klebsiella pneumoniae. Journal of Antimicrobial Chemotherapy, 2020, 75, 1747-1755.	3.0	10
87	A Rapid Single-Cell Antimicrobial Susceptibility Testing Workflow for Bloodstream Infections. Biosensors, 2021, 11, 288.	4.7	10
88	Discerning single molecule interactions of DNA and quantum dots. Biotechnology Journal, 2013, 8, 15-16.	3.5	9
89	Droplet Array Platform for High-Resolution Melt Analysis of DNA Methylation Density. Journal of the Association for Laboratory Automation, 2014, 19, 304-312.	2.8	9
90	Versatile Analysis of DNAâ€“Biomolecule Interactions in Solution by Hydrodynamic Separation and Single Molecule Detection. Analytical Chemistry, 2019, 91, 2822-2830.	6.5	9

#	Article	IF	Citations
91	A Novel Platform Using RNA Signatures To Accelerate Antimicrobial Susceptibility Testing in Neisseria gonorrhoeae. Journal of Clinical Microbiology, 2020, 58, .	3.9	8
92	ddRFC: A scalable multiplexed droplet digital nucleic acid amplification test platform. Biosensors and Bioelectronics, 2020, 167, 112499.	10.1	8
93	An AC electroosmotic processor for biomolecules. , 0, , .		7
94	Technological Advances in Multiscale Analysis of Single Cells in Biomedicine. Advanced Biology, 2019, 3, 1900138.	3.0	7
95	Ligation-Enabled Fluorescence-Coding PCR for High-Dimensional Fluorescence-Based Nucleic Acid Detection. Analytical Chemistry, 2021, 93, 2351-2358.	6.5	7
96	A vacuum-assisted, highly parallelized microfluidic array for performing multi-step digital assays. Lab on A Chip, 2021, 21, 4716-4724.	6.0	7
97	Enhancing Throughput of Combinatorial Droplet Devices via Droplet Bifurcation, Parallelized Droplet Fusion, and Parallelized Detection. Micromachines, 2015, 6, 1490-1504.	2.9	6
98	Ultra-thin, evaporation-resistent PDMS devices for absolute quantification of DNA using digital PCR. , 2015, , .		6
99	Impedance feedback control of microfluidic valves for reliable post processing combinatorial droplet injection. Biomedical Microdevices, 2017, 19, 61.	2.8	6
100	Leveraging locus-specific epigenetic heterogeneity to improve the performance of blood-based DNA methylation biomarkers. Clinical Epigenetics, 2020, 12, 154.	4.1	5
101	Micro and Nanotechnologies Enhanced Biomolecular Sensing. Biosensors, 2013, 3, 283-285.	4.7	4
102	Healthcare Worker Feedback on a Prototype Smartphone-Based Point-of-Care Test Platform for Use in Episodic Care. Point of Care, 2018, 17, 63-65.	0.4	4
103	Electrode-Free Concentration and Recovery of DNA at Physiologically Relevant Ionic Concentrations. Analytical Chemistry, 2020, 92, 6150-6157.	6.5	4
104	Ratiometric PCR in a Portable Sample-to-Result Device for Broad-Based Pathogen Identification. Analytical Chemistry, 0, , .	6.5	4
105	Emerging platforms for high-throughput enzymatic bioassays. Trends in Biotechnology, 2023, 41, 120-133.	9.3	4
106	A Portable Droplet Magnetofluidic Device for Point-of-Care Detection of Multidrug-Resistant Candida auris. Frontiers in Bioengineering and Biotechnology, 2022, 10, 826694.	4.1	3
107	Nano/micro technologies for single molecule manipulation and detection. , 0, , .		2
108	Quantum dot FRET linker probes for highly sensitive DNA methylation detection. , 2012, , .		2

#	Article	IF	Citations
109	A Multiplex Ligation Assay for miRNA Copy Number Profiling. Methods in Molecular Biology, 2017, 1509, 185-193.	0.9	2
110	Droplet Magnetofluidic Assay Platform for Quantitative Methylation-Specific PCR. Methods in Molecular Biology, 2022, 2394, 199-209.	0.9	2
111	Single bio-molecule detection with quantum dots in a microchannel. , 0, , .		1
112	High-Degree Concentration of Bio-agents using Electrokinetic Manipulations. , 2006, , .		1
113	Quantitative kinetic analysis of DNA nanocomplex self-assembly with Quantum Dots FRET in a microfluidic device. Proceedings of the IEEE International Conference on Micro Electro Mechanical Systems (MEMS), 2008, , .	0.0	1
114	An automated all-in-one microfludic device for parallel solid phase DNA extraction and droplet-inoil PCR analysis. , 2010, , .		1
115	Quantum Dots-Enabled High-Resolution Analysis of Gene Copy Number Variation. IEEE Nanotechnology Magazine, 2011, 5, 23-27.	1.3	1
116	A microfluidic droplet platform for multiplexed single nucleotide polymorphism analysis of an array plant genomic DNA samples. , 2013, , .		1
117	Spatially encoded picoliter droplet groups for high-throughput combinatorial analysis. , 2017, , .		1
118	Ratiometric Multiplexed PCR Assay on a Portable Platform for Bacterial Identification from Urine. , 2019, , .		1
119	Rapid Pathogen Detection and Antimicrobial Susceptibility Assessment from Urine Samples Via Amplification-Free Detection of Ribosomal RNA of Single-Bacteria. , 2019, , .		1
120	Antimicrobial Susceptibility Testing of Neisseria gonorrhoeae using a Phenotypic-Molecular Assay and Lyophilized Antimicrobials. Diagnostic Microbiology and Infectious Disease, 2021, 102, 115590.	1.8	1
121	A Programmable Nanodroplet Device with Direct Sample-to-Droplet Interface toward High-Throughput Screening. , 2020, , .		1
122	High-throughput sample processing for methylation analysis in an automated, enclosed environment. SLAS Technology, 2021, , .	1.9	1
123	Multiplexed Detection of Anthrax Sequences with Quantum Dot Nanoprobes. , 2006, , .		0
124	Detect the dots. IEEE Nanotechnology Magazine, 2008, 2, 15-16.	1.3	0
125	High throughput DNA methylation analysis on a droplet-in-oil polymerase chain reaction array. , 2009, , .		0
126	Quantum dots-enabled high resolution analysis of gene copy number variation. , 2011, , .		0

#	Article	IF	Citations
127	An active gyroscopic magnetic micromixer for rapid fluid mixing in droplet based microfluidic systems. , 2011, , .		0
128	Quantum dot electrophoretic mobility shift assay and its application to the measurement of exonuclease activity. , 2012, , .		0
129	Flip-drop: Droplet array created by surface energy trap for combinatorial screening. , 2013, , .		0
130	All-in-one droplet platform for multiplexed genetic detection in blood. , 2013, , .		0
131	DNA Extraction: A Simple Thermoplastic Substrate Containing Hierarchical Silica Lamellae for Highâ€Molecularâ€Weight DNA Extraction (Adv. Mater. 48/2016). Advanced Materials, 2016, 28, 10810-10810.	21.0	0
132	In-line DNA preconcentration, size separation, and single molecule detection without applied electric fields. , 2016, , .		0
133	A portable droplet magnetofluidic platform for automated RNA quantification and analysis. , 2017, , .		0
134	A Vacuum-Driven Microfluidic Array for Multi-Step Sample Digitalization. , 2021, , .		0
135	Robotic Printed Combinatorial Droplet (RoboDrop) for Antibiotic Combination Screening. , 2022, , .		0