

# David Yu Zhang

## List of Publications by Year in descending order

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Version: 2024-02-01

45  
papers

7,603  
citations

257450

24  
h-index

233421

45  
g-index

58  
all docs

58  
docs citations

58  
times ranked

4651  
citing authors

#	ARTICLE	IF	CITATIONS
1	Limitations and opportunities of technologies for the analysis of cell-free DNA in cancer diagnostics. <i>Nature Biomedical Engineering</i> , 2022, 6, 232-245.	22.5	56
2	Clinically translatable cytokine delivery platform for eradication of intraperitoneal tumors. <i>Science Advances</i> , 2022, 8, eabm1032.	10.3	35
3	Ensemble of nucleic acid absolute quantitation modules for copy number variation detection and RNA profiling. <i>Nature Communications</i> , 2022, 13, 1791.	12.8	8
4	Single-Tube qPCR Detection and Quantitation of Hotspot Mutations Down to 0.01% Variant Allele Fraction. <i>Analytical Chemistry</i> , 2022, 94, 934-943.	6.5	10
5	Designing highly multiplex PCR primer sets with Simulated Annealing Design using Dimer Likelihood Estimation (SADDLE). <i>Nature Communications</i> , 2022, 13, 1881.	12.8	9
6	Cost-Efficient Sequence-Based Nonextensible Oligonucleotide in Real-Time PCR and High-Throughput Sequencing. <i>ACS Sensors</i> , 2022, 7, 1165-1174.	7.8	0
7	Hairpin Structure Facilitates Multiplex High-Fidelity DNA Amplification in Real-Time Polymerase Chain Reaction. <i>Analytical Chemistry</i> , 2022, 94, 9586-9594.	6.5	6
8	High-Throughput Variant Detection Using a Color-Mixing Strategy. <i>Journal of Molecular Diagnostics</i> , 2022, 24, 878-892.	2.8	0
9	High sensitivity sanger sequencing detection of BRAF mutations in metastatic melanoma FFPE tissue specimens. <i>Scientific Reports</i> , 2021, 11, 9043.	3.3	13
10	Selective multiplexed enrichment for the detection and quantitation of low-fraction DNA variants via low-depth sequencing. <i>Nature Biomedical Engineering</i> , 2021, 5, 690-701.	22.5	27
11	Confirming putative variants at $\approx 5\%$ allele frequency using allele enrichment and Sanger sequencing. <i>Scientific Reports</i> , 2021, 11, 11640.	3.3	20
12	Highly multiplexed rapid DNA detection with single-nucleotide specificity via convective PCR in a portable device. <i>Nature Biomedical Engineering</i> , 2021, 5, 702-712.	22.5	41
13	A deep learning model for predicting next-generation sequencing depth from DNA sequence. <i>Nature Communications</i> , 2021, 12, 4387.	12.8	26
14	Predicting stability of DNA bulge at mononucleotide microsatellite. <i>Nucleic Acids Research</i> , 2021, 49, 7901-7908.	14.5	1
15	Oncogene Concatenated Enriched Amplicon Nanopore Sequencing for rapid, accurate, and affordable somatic mutation detection. <i>Genome Biology</i> , 2021, 22, 227.	8.8	13
16	Calibration-free NGS quantitation of mutations below 0.01% VAF. <i>Nature Communications</i> , 2021, 12, 6123.	12.8	13
17	Metastable hybridization-based DNA information storage to allow rapid and permanent erasure. <i>Nature Communications</i> , 2020, 11, 5008.	12.8	12
18	Nucleic Acid Quantitation with Log-Linear Response Hybridization Probe Sets. <i>ACS Sensors</i> , 2020, 5, 1604-1614.	7.8	5

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19	High-throughput methods for measuring DNA thermodynamics. <i>Nucleic Acids Research</i> , 2020, 48, e89-e89.	14.5	17
20	Highly Sensitive Blocker Displacement Amplification and Droplet Digital PCR Reveal Low-Level Parental FOXF1 Somatic Mosaicism in Families with Alveolar Capillary Dysplasia with Misalignment of Pulmonary Veins. <i>Journal of Molecular Diagnostics</i> , 2020, 22, 447-456.	2.8	13
21	Encoding multiple digital DNA signals in a single analog channel. <i>Nucleic Acids Research</i> , 2020, 48, e65-e65.	14.5	1
22	Predicting DNA hybridization kinetics from sequence. <i>Nature Chemistry</i> , 2018, 10, 91-98.	13.6	146
23	Simultaneous and stoichiometric purification of hundreds of oligonucleotides. <i>Nature Communications</i> , 2018, 9, 2467.	12.8	22
24	Multiplexed enrichment of rare DNA variants via sequence-selective and temperature-robust amplification. <i>Nature Biomedical Engineering</i> , 2017, 1, 714-723.	22.5	86
25	Modular probes for enriching and detecting complex nucleic acid sequences. <i>Nature Chemistry</i> , 2017, 9, 1222-1228.	13.6	32
26	Diagnostics based on nucleic acid sequence variant profiling: PCR, hybridization, and NGS approaches. <i>Advanced Drug Delivery Reviews</i> , 2016, 105, 3-19.	13.7	118
27	Native characterization of nucleic acid motif thermodynamics via non-covalent catalysis. <i>Nature Communications</i> , 2016, 7, 10319.	12.8	22
28	DyNAMiC Workbench: an integrated development environment for dynamic DNA nanotechnology. <i>Journal of the Royal Society Interface</i> , 2015, 12, 20150580.	3.4	17
29	Simulation-guided DNA probe design for consistently ultraspecific hybridization. <i>Nature Chemistry</i> , 2015, 7, 545-553.	13.6	131
30	Continuously tunable nucleic acid hybridization probes. <i>Nature Methods</i> , 2015, 12, 1191-1196.	19.0	48
31	Ultraspecific and Highly Sensitive Nucleic Acid Detection by Integrating a DNA Catalytic Network with a Label-Free Microcavity. <i>Small</i> , 2014, 10, 2067-2076.	10.0	55
32	Developmental Self-Assembly of a DNA Tetrahedron. <i>ACS Nano</i> , 2014, 8, 3251-3259.	14.6	97
33	Conditionally fluorescent molecular probes for detecting single base changes in double-stranded DNA. <i>Nature Chemistry</i> , 2013, 5, 782-789.	13.6	136
34	Integrating DNA strand-displacement circuitry with DNA tile self-assembly. <i>Nature Communications</i> , 2013, 4, 1965.	12.8	183
35	Optimizing the specificity of nucleic acid hybridization. <i>Nature Chemistry</i> , 2012, 4, 208-214.	13.6	347
36	Cooperative Hybridization of Oligonucleotides. <i>Journal of the American Chemical Society</i> , 2011, 133, 1077-1086.	13.7	98

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37	Remote Toehold: A Mechanism for Flexible Control of DNA Hybridization Kinetics. Journal of the American Chemical Society, 2011, 133, 2177-2182.	13.7	263
38	Dynamic DNA nanotechnology using strand-displacement reactions. Nature Chemistry, 2011, 3, 103-113.	13.6	1,531
39	Robustness and modularity properties of a non-covalent DNA catalytic reaction. Nucleic Acids Research, 2010, 38, 4182-4197.	14.5	95
40	Error suppression mechanisms for DNA tile self-assembly and their simulation. Natural Computing, 2009, 8, 589-612.	3.0	35
41	Control of DNA Strand Displacement Kinetics Using Toehold Exchange. Journal of the American Chemical Society, 2009, 131, 17303-17314.	13.7	1,239
42	Dynamic Allosteric Control of Noncovalent DNA Catalysis Reactions. Journal of the American Chemical Society, 2008, 130, 13921-13926.	13.7	67
43	Engineering Entropy-Driven Reactions and Networks Catalyzed by DNA. Science, 2007, 318, 1121-1125.	12.6	1,022
44	Enzyme-Free Nucleic Acid Logic Circuits. Science, 2006, 314, 1585-1588.	12.6	1,440
45	FFT-based algorithms for the string matching with mismatches problem. Journal of Algorithms, 2005, 57, 130-139.	0.9	10