David Yu Zhang

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/2497030/publications.pdf

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	Dynamic DNA nanotechnology using strand-displacement reactions. Nature Chemistry, 2011, 3, 103-113.	13.6	1,531
2	Enzyme-Free Nucleic Acid Logic Circuits. Science, 2006, 314, 1585-1588.	12.6	1,440
3	Control of DNA Strand Displacement Kinetics Using Toehold Exchange. Journal of the American Chemical Society, 2009, 131, 17303-17314.	13.7	1,239
4	Engineering Entropy-Driven Reactions and Networks Catalyzed by DNA. Science, 2007, 318, 1121-1125.	12.6	1,022
5	Optimizing the specificity of nucleic acid hybridization. Nature Chemistry, 2012, 4, 208-214.	13.6	347
6	Remote Toehold: A Mechanism for Flexible Control of DNA Hybridization Kinetics. Journal of the American Chemical Society, 2011, 133, 2177-2182.	13.7	263
7	Integrating DNA strand-displacement circuitry with DNA tile self-assembly. Nature Communications, 2013, 4, 1965.	12.8	183
8	Predicting DNA hybridization kinetics from sequence. Nature Chemistry, 2018, 10, 91-98.	13.6	146
9	Conditionally fluorescent molecular probes for detecting single base changes in double-stranded DNA. Nature Chemistry, 2013, 5, 782-789.	13.6	136
10	Simulation-guided DNA probe design for consistently ultraspecific hybridization. Nature Chemistry, 2015, 7, 545-553.	13.6	131
11	Diagnostics based on nucleic acid sequence variant profiling: PCR, hybridization, and NGS approaches. Advanced Drug Delivery Reviews, 2016, 105, 3-19.	13.7	118
12	Cooperative Hybridization of Oligonucleotides. Journal of the American Chemical Society, 2011, 133, 1077-1086.	13.7	98
13	Developmental Self-Assembly of a DNA Tetrahedron. ACS Nano, 2014, 8, 3251-3259.	14.6	97
14	Robustness and modularity properties of a non-covalent DNA catalytic reaction. Nucleic Acids Research, 2010, 38, 4182-4197.	14.5	95
15	Multiplexed enrichment of rare DNA variants via sequence-selective and temperature-robust amplification. Nature Biomedical Engineering, 2017, 1, 714-723.	22.5	86
16	Dynamic Allosteric Control of Noncovalent DNA Catalysis Reactions. Journal of the American Chemical Society, 2008, 130, 13921-13926.	13.7	67
17	Limitations and opportunities of technologies for the analysis of cell-free DNA in cancer diagnostics. Nature Biomedical Engineering, 2022, 6, 232-245.	22.5	56
18	Ultraspecific and Highly Sensitive Nucleic Acid Detection by Integrating a DNA Catalytic Network with a Labelâ€Free Microcavity. Small, 2014, 10, 2067-2076.	10.0	55

#	Article	IF	Citations
19	Continuously tunable nucleic acid hybridization probes. Nature Methods, 2015, 12, 1191-1196.	19.0	48
20	Highly multiplexed rapid DNA detection with single-nucleotide specificity via convective PCR in a portable device. Nature Biomedical Engineering, 2021, 5, 702-712.	22.5	41
21	Error suppression mechanisms for DNA tile self-assembly and their simulation. Natural Computing, 2009, 8, 589-612.	3.0	35
22	Clinically translatable cytokine delivery platform for eradication of intraperitoneal tumors. Science Advances, 2022, 8, eabm1032.	10.3	35
23	Modular probes for enriching and detecting complex nucleic acid sequences. Nature Chemistry, 2017, 9, 1222-1228.	13.6	32
24	Selective multiplexed enrichment for the detection and quantitation of low-fraction DNA variants via low-depth sequencing. Nature Biomedical Engineering, 2021, 5, 690-701.	22.5	27
25	A deep learning model for predicting next-generation sequencing depth from DNA sequence. Nature Communications, 2021, 12, 4387.	12.8	26
26	Native characterization of nucleic acid motif thermodynamics via non-covalent catalysis. Nature Communications, 2016, 7, 10319.	12.8	22
27	Simultaneous and stoichiometric purification of hundreds of oligonucleotides. Nature Communications, 2018, 9, 2467.	12.8	22
28	Confirming putative variants atâ€‰â‰â€‰5% allele frequency using allele enrichment and Sanger sequencing. Scientific Reports, 2021, 11, 11640.	3.3	20
29	DyNAMiC Workbench: an integrated development environment for dynamic DNA nanotechnology. Journal of the Royal Society Interface, 2015, 12, 20150580.	3.4	17
30	High-throughput methods for measuring DNA thermodynamics. Nucleic Acids Research, 2020, 48, e89-e89.	14.5	17
31	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. Journal of Molecular Diagnostics, 2020, 22, 447-456.	2.8	13
32	High sensitivity sanger sequencing detection of BRAF mutations in metastatic melanoma FFPE tissue specimens. Scientific Reports, 2021, 11, 9043.	3.3	13
33	Oncogene Concatenated Enriched Amplicon Nanopore Sequencing for rapid, accurate, and affordable somatic mutation detection. Genome Biology, 2021, 22, 227.	8.8	13
34	Calibration-free NGS quantitation of mutations below 0.01% VAF. Nature Communications, 2021, 12, 6123.	12.8	13
35	Metastable hybridization-based DNA information storage to allow rapid and permanent erasure. Nature Communications, 2020, 11, 5008.	12.8	12
36	FFT-based algorithms for the string matching with mismatches problem. Journal of Algorithms, 2005, 57, 130-139.	0.9	10

#	Article	IF	Citations
37	Single-Tube qPCR Detection and Quantitation of Hotspot Mutations Down to 0.01% Variant Allele Fraction. Analytical Chemistry, 2022, 94, 934-943.	6.5	10
38	Designing highly multiplex PCR primer sets with Simulated Annealing Design using Dimer Likelihood Estimation (SADDLE). Nature Communications, 2022, 13, 1881.	12.8	9
39	Ensemble of nucleic acid absolute quantitation modules for copy number variation detection and RNA profiling. Nature Communications, 2022, 13, 1791.	12.8	8
40	Hairpin Structure Facilitates Multiplex High-Fidelity DNA Amplification in Real-Time Polymerase Chain Reaction. Analytical Chemistry, 2022, 94, 9586-9594.	6.5	6
41	Nucleic Acid Quantitation with Logâ€“Linear Response Hybridization Probe Sets. ACS Sensors, 2020, 5, 1604-1614.	7.8	5
42	Encoding multiple digital DNA signals in a single analog channel. Nucleic Acids Research, 2020, 48, e65-e65.	14.5	1
43	Predicting stability of DNA bulge at mononucleotide microsatellite. Nucleic Acids Research, 2021, 49, 7901-7908.	14.5	1
44	Cost-Efficient Sequence-Based Nonextensible Oligonucleotide in Real-Time PCR and High-Throughput Sequencing. ACS Sensors, 2022, 7, 1165-1174.	7.8	0
45	High-Throughput Variant Detection Using aÂColor-Mixing Strategy. Journal of Molecular Diagnostics, 2022, 24, 878-892.	2.8	0