Irene A Chen

List of Publications by Year
in descending order

64 papers	4,556 citations	201674 27 h-index	128289 60 g-index
76 all docs	76 docs citations	76 times ranked	5103 citing authors

#	Article	IF	Citations
1	Vesicle encapsulation stabilizes intermolecular association and structure formation of functional RNA and DNA. Current Biology, 2022, 32, 86-96.e6.	3.9	12
2	Treatment of Wound Infections in a Mouse Model Using Zn²⁺-Releasing Phage Bound to Gold Nanorods. ACS Nano, 2022, 16, 4756-4774.	14.6	38
3	The Chronic Wound Phageome: Phage Diversity and Associations with Wounds and Healing Outcomes. Microbiology Spectrum, 2022, 10, e0277721.	3.0	14
4	InÂvitro evolution: From monsters to mobs. Current Biology, 2022, 32, R580-R583.	3.9	0
5	Emergent properties as by-products of prebiotic evolution of aminoacylation ribozymes. Nature Communications, 2022, 13, .	12.8	11
6	Phage engineering and the evolutionary arms race. Current Opinion in Biotechnology, 2021, 68, 23-29.	6.6	30
7	Kinetic sequencing (k-Seq) as a massively parallel assay for ribozyme kinetics: utility and critical parameters. Nucleic Acids Research, 2021, 49, e67-e67.	14.5	11
8	Encapsulation of ribozymes inside model protocells leads to faster evolutionary adaptation. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	22
9	A Bayesian Nonparametric Analysis for Zero-Inflated Multivariate Count Data with Application to Microbiome Study. Journal of the Royal Statistical Society Series C: Applied Statistics, 2021, 70, 961-979.	1.0	4
10	PacBio sequencing output increased through uniform and directional fivefold concatenation. Scientific Reports, 2021, 11, 18065.	3.3	18
11	Self-cleaving ribozymes: substrate specificity and synthetic biology applications. RSC Chemical Biology, 2021, 2, 1370-1383.	4.1	18
12	Microbial predictors of healing and short-term effect of debridement on the microbiome of chronic wounds. Npj Biofilms and Microbiomes, 2020, 6, 21.	6.4	86
13	Protocells. Current Biology, 2020, 30, R482-R485.	3.9	12
14	EasyDIVER: A Pipeline for Assembling and Counting High-Throughput Sequencing Data from In Vitro Evolution of Nucleic Acids or Peptides. Journal of Molecular Evolution, 2020, 88, 477-481.	1.8	14
15	Functional and Templating Ability of Fluorescent RNA Aptamers in Possible Prebiotic Conditions. Biophysical Journal, 2020, 118, 70a.	0.5	0
16	High throughput sequencing of in vitro selections of mRNA-displayed peptides: data analysis and applications. Physical Chemistry Chemical Physics, 2020, 22, 6492-6506.	2.8	8
17	Controlled phage therapy by photothermal ablation of specific bacterial species using gold nanorods targeted by chimeric phages. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 1951-1961.	7.1	86
18	Promiscuous Ribozymes and Their Proposed Role in Prebiotic Evolution. Chemical Reviews, 2020, 120, 4879-4897.	47.7	22

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19	Chimeric Phage Nanoparticles for Rapid Characterization of Bacterial Pathogens: Detection in Complex Biological Samples and Determination of Antibiotic Sensitivity. ACS Sensors, 2020, 5, 1491-1499.	7.8	33
20	From soup to peptides. Nature Chemistry, 2019, 11, 763-764.	13.6	4
21	Phage therapy administered noninvasively could be effective in thin tubes subject to episodic flow despite washout: a simulation study. Physical Biology, 2019, 16, 054001.	1.8	3
22	Improved single-swab sample preparation for recovering bacterial and phage DNA from human skin and wound microbiomes. BMC Microbiology, 2019, 19, 214.	3.3	14
23	Effect of UV Radiation on Fluorescent RNA Aptamersâ€™ Functional and Templating Ability. ChemBioChem, 2019, 20, 2609-2617.	2.6	9
24	Mapping a Systematic Ribozyme Fitness Landscape Reveals a Frustrated Evolutionary Network for Self-Aminoacylating RNA. Journal of the American Chemical Society, 2019, 141, 6213-6223.	13.7	67
25	Rapid Colorimetric Detection of Bacterial Species through the Capture of Gold Nanoparticles by Chimeric Phages. ACS Nano, 2019, 13, 1244-1252.	14.6	92
26	Molecular Fitness Landscapes from High-Coverage Sequence Profiling. Annual Review of Biophysics, 2019, 48, 1-18.	10.0	40
27	Hispanic Mothers' Experiences with School-Based Emotional Health Curriculum and Perspectives of Their Own Mental Health Needs. Issues in Mental Health Nursing, 2019, 40, 720-724.	1.2	0
28	Analysis of Evolutionarily Independent Protein-RNA Complexes Yields a Criterion to Evaluate the Relevance of Prebiotic Scenarios. Current Biology, 2018, 28, 526-537.e5.	3.9	39
29	Connections Between Mathematical Models of Prebiotic Evolution and Homochirality. Nucleic Acids and Molecular Biology, 2018, , 245-261.	0.2	2
30	Lipid vesicles chaperone an encapsulated RNA aptamer. Nature Communications, 2018, 9, 2313.	12.8	47
31	Analysis of in vitro evolution reveals the underlying distribution of catalytic activity among random sequences. Nucleic Acids Research, 2017, 45, 8167-8179.	14.5	24
32	From underwear to non-equilibrium thermodynamics: physical chemistry informs the origin of life. Physical Chemistry Chemical Physics, 2016, 18, 20005-20006.	2.8	4
33	Computational analysis of fitness landscapes and evolutionary networks from in vitro evolution experiments. Methods, 2016, 106, 86-96.	3.8	10
34	Quantitative Analysis of Synthesized Nucleic Acid Pools. SEMA SIMAI Springer Series, 2016, , 19-41.	0.7	0
35	Origin of Life: Protocells Red in Tooth and Claw. Current Biology, 2015, 25, R1175-R1177.	3.9	11
36	Replicating towards complexity. Nature Chemistry, 2015, 7, 191-192.	13.6	4

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37	The RNA World as a Model System to Study the Origin of Life. Current Biology, 2015, 25, R953-R963.	3.9	114
38	Molecular Crowding and Early Evolution. Origins of Life and Evolution of Biospheres, 2014, 44, 319-324.	1.9	41
39	Experimental fitness landscapes to understand the molecular evolution of RNA-based life. Current Opinion in Chemical Biology, 2014, 22, 35-39.	6.1	27
40	Genetic Drift Suppresses Bacterial Conjugation in Spatially Structured Populations. Biophysical Journal, 2014, 106, 944-954.	0.5	31
41	Comprehensive experimental fitness landscape and evolutionary network for small RNA. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 14984-14989.	7.1	137
42	The Paradox of Dual Roles in the RNA World: Resolving the Conflict Between Stable Folding and Templating Ability. Journal of Molecular Evolution, 2013, 77, 55-63.	1.8	36
43	Life: The Physical Underpinnings of Replication. , 2013, , 271-306.		2
44	Cascade of Reduced Speed and Accuracy after Errors in Enzyme-Free Copying of Nucleic Acid Sequences. Journal of the American Chemical Society, 2013, 135, 354-366.	13.7	64
45	Selection for Replicases in Protocells. PLoS Computational Biology, 2013, 9, e1003051.	3.2	27
46	Prebiotically plausible mechanisms increase compositional diversity of nucleic acid sequences. Nucleic Acids Research, 2012, 40, 4711-4722.	14.5	46
47	From Prelife to Life: How Chemical Kinetics Become Evolutionary Dynamics. Accounts of Chemical Research, 2012, 45, 2088-2096.	15.6	43
48	Spontaneous network formation among cooperative RNA replicators. Nature, 2012, 491, 72-77.	27.8	299
49	Mathematical Models of Prebiotic Replication of Informational Molecules. Cellular Origin and Life in Extreme Habitats, 2012, , 67-88.	0.3	0
50	Inhibition of Bacterial Conjugation by Phage M13 and Its Protein g3p: Quantitative Analysis and Model. PLoS ONE, 2011, 6, e19991.	2.5	76
51	The prebiotic evolutionary advantage of transferring genetic information from RNA to DNA. Nucleic Acids Research, 2011, 39, 8135-8147.	14.5	67
52	The basic reproductive ratio of life. Journal of Theoretical Biology, 2010, 263, 317-327.	1.7	18
53	Quadruplet codons: One small step for a ribosome, one giant leap for proteins. BioEssays, 2010, 32, 650-654.	2.5	7
54	Effect of Stalling after Mismatches on the Error Catastrophe in Nonenzymatic Nucleic Acid Replication. Journal of the American Chemical Society, 2010, 132, 5880-5885.	13.7	106

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55	From Self-Assembled Vesicles to Protocells. Cold Spring Harbor Perspectives in Biology, 2010, 2, a002170-a002170.	5.5	205
56	Cell Division: Breaking Up Is Easy toÂDo. Current Biology, 2009, 19, R327-R328.	3.9	21
57	GE PRIZE-WINNING ESSAY: The Emergence of Cells During the Origin of Life. Science, 2006, 314, 1558-1559.	12.6	36
58	RNA Catalysis in Model Protocell Vesicles. Journal of the American Chemical Society, 2005, 127, 13213-13219.	13.7	242
59	Shrink-Wrap Vesicles. Langmuir, 2005, 21, 12124-12129.	3.5	25
60	Membrane growth can generate a transmembrane pH gradient in fatty acid vesicles. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 7965-7970.	7.1	143
61	A Kinetic Study of the Growth of Fatty Acid Vesicles. Biophysical Journal, 2004, 87, 988-998.	0.5	211
62	The Emergence of Competition Between Model Protocells. Science, 2004, 305, 1474-1476.	12.6	373
63	Dissecting Temporal and Spatial Control of Cytokinesis with a Myosin II Inhibitor. Science, 2003, 299, 1743-1747.	12.6	1,259
64	A Strategically Positioned Cation Is Crucial for Efficient Catalysis by Chorismate Mutase. Journal of Biological Chemistry, 2000, 275, 36832-36838.	3.4	67