Geraldâ€F Joyce

List of Publications by Year
in descending order

79 papers	11,533 citations	81900 39 h-index	60623 81 g-index
88 all docs	88 docs citations	88 times ranked	6674 citing authors

#	ARTICLE	IF	CITATIONS
1	Witnessing the structural evolution of an RNA enzyme. ELife, 2021, 10, .	6.0	14
2	Kinetic Effects of Î²,Î³-Modified Deoxynucleoside 5â€²-Triphosphate Analogues on RNA-Catalyzed Polymerization of DNA. Biochemistry, 2021, 60, 1-5.	2.5	3
3	Cross-Chiral, RNA-Catalyzed Exponential Amplification of RNA. Journal of the American Chemical Society, 2021, 143, 19160-19166.	13.7	8
4	Thermal Habitat for RNA Amplification and Accumulation. Physical Review Letters, 2020, 125, 048104.	7.8	34
5	RNA-Catalyzed Cross-Chiral Polymerization of RNA. Journal of the American Chemical Society, 2020, 142, 15331-15339.	13.7	13
6	An RNA polymerase ribozyme that synthesizes its own ancestor. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 2906-2913.	7.1	81
7	RNA-Catalyzed Polymerization of Deoxyribose, Threose, and Arabinose Nucleic Acids. ACS Synthetic Biology, 2019, 8, 955-961.	3.8	19
8	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
9	Protocells and RNA Self-Replication. Cold Spring Harbor Perspectives in Biology, 2018, 10, a034801.	5.5	190
10	3â€²-End labeling of nucleic acids by a polymerase ribozyme. Nucleic Acids Research, 2018, 46, e103-e103.	14.5	22
11	A reverse transcriptase ribozyme. ELife, 2017, 6, .	6.0	46
12	Real-Time Detection of a Self-Replicating RNA Enzyme. Molecules, 2016, 21, 1310.	3.8	13
13	Amplification of RNA by an RNA polymerase ribozyme. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9786-9791.	7.1	190
14	Reflections of a Darwinian Engineer. Journal of Molecular Evolution, 2015, 81, 146-149.	1.8	7
15	Specific Inhibition of MicroRNA Processing Using <scp>l</scp>-RNA Aptamers. Journal of the American Chemical Society, 2015, 137, 16032-16037.	13.7	38
16	Ligand-Dependent Exponential Amplification of Self-Replicating RNA Enzymes. Methods in Enzymology, 2015, 550, 23-39.	1.0	2
17	An L-RNA Aptamer that Binds and Inhibits RNase. Chemistry and Biology, 2015, 22, 1437-1441.	6.0	22
18	Highly Efficient Self-Replicating RNA Enzymes. Chemistry and Biology, 2014, 21, 238-245.	6.0	85

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19	A cross-chiral RNA polymerase ribozyme. Nature, 2014, 515, 440-442.	27.8	153
20	The Expanding View of RNA and DNA Function. Chemistry and Biology, 2014, 21, 1059-1065.	6.0	87
21	Limits of Neutral Drift: Lessons From the In Vitro Evolution of Two Ribozymes. Journal of Molecular Evolution, 2014, 79, 75-90.	1.8	24
22	Kinetic Properties of an RNA Enzyme That Undergoes Self-Sustained Exponential Amplification. Biochemistry, 2013, 52, 1227-1235.	2.5	28
23	Binding of a Structured <scp>d</scp>-RNA Molecule by an <scp>l</scp>-RNA Aptamer. Journal of the American Chemical Society, 2013, 135, 13290-13293.	13.7	59
24	Leslie Eleazer Orgel. 12 January 1927 â€” 27 October 2007. Biographical Memoirs of Fellows of the Royal Society, 2013, 59, 277-289.	0.1	1
25	Bit by Bit: The Darwinian Basis of Life. PLoS Biology, 2012, 10, e1001323.	5.6	37
26	The Origins of the RNA World. Cold Spring Harbor Perspectives in Biology, 2012, 4, a003608-a003608.	5.5	383
27	Synthetic Evolving Systems that Implement a User-Specified Genetic Code of Arbitrary Design. Chemistry and Biology, 2012, 19, 1324-1332.	6.0	17
28	Ligand-Dependent Exponential Amplification of a Self-Replicating <scp>l</scp>-RNA Enzyme. Journal of the American Chemical Society, 2012, 134, 8050-8053.	13.7	35
29	Toward an Alternative Biology. Science, 2012, 336, 307-308.	12.6	40
30	An Isothermal System that Couples Ligand-Dependent Catalysis to Ligand-Independent Exponential Amplification. Journal of the American Chemical Society, 2011, 133, 3191-3197.	13.7	23
31	Microfluidic Compartmentalized Directed Evolution. Chemistry and Biology, 2010, 17, 717-724.	6.0	58
32	Deep sequencing analysis of mutations resulting from the incorporation of dNTP analogs. Nucleic Acids Research, 2010, 38, 8095-8104.	14.5	10
33	Niche partitioning in the coevolution of 2 distinct RNA enzymes. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 7780-7785.	7.1	28
34	Autocatalytic aptazymes enable ligand-dependent exponential amplification of RNA. Nature Biotechnology, 2009, 27, 288-292.	17.5	57
35	Self-Sustained Replication of an RNA Enzyme. Science, 2009, 323, 1229-1232.	12.6	556
36	Darwinian Evolution on a Chip. PLoS Biology, 2008, 6, e85.	5.6	34

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37	Emergence of a fast-reacting ribozyme that is capable of undergoing continuous evolution. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 15288-15293.	7.1	48
38	STRUCTURAL BIOLOGY: A Glimpse of Biology's First Enzyme. Science, 2007, 315, 1507-1508.	12.6	19
39	Forty Years of In Vitro Evolution. Angewandte Chemie - International Edition, 2007, 46, 6420-6436.	13.8	280
40	Leslie Orgel (1927â€“2007). Nature, 2007, 450, 627-627.	27.8	5
41	Microfluidic Serial Dilution Circuit. Analytical Chemistry, 2006, 78, 7522-7527.	6.5	60
42	Conversion of a Ribozyme to a Deoxyribozyme through In Vitro Evolution. Chemistry and Biology, 2006, 13, 329-338.	6.0	39
43	A DNA-Templated Aldol Reaction as a Model for the Formation of Pentose Sugars in the RNA World. Angewandte Chemie - International Edition, 2005, 44, 7580-7583.	13.8	28
44	The Promise and Peril of Continuous In Vitro Evolution. Journal of Molecular Evolution, 2005, 61, 253-263.	1.8	29
45	A 1.7-kilobase single-stranded DNA that folds into a nanoscale octahedron. Nature, 2004, 427, 618-621.	27.8	912
46	Minimal self-replicating systems. Current Opinion in Chemical Biology, 2004, 8, 634-639.	6.1	127
47	Cross-Catalytic Replication of an RNA Ligase Ribozyme. Chemistry and Biology, 2004, 11, 1505-1512.	6.0	103
48	Directed Evolution of Nucleic Acid Enzymes. Annual Review of Biochemistry, 2004, 73, 791-836.	11.1	476
49	Selective Derivatization and Sequestration of Ribose from a Prebiotic Mix. Journal of the American Chemical Society, 2004, 126, 9578-9583.	13.7	111
50	Perfectly Complementary Nucleic Acid Enzymes. Journal of Molecular Evolution, 2003, 56, 711-717.	1.8	11
51	Continuous In Vitro Evolution of Ribozymes That Operate Under Conditions of Extreme pH. Journal of Molecular Evolution, 2003, 57, 292-298.	1.8	33
52	Self-replication. Current Biology, 2003, 13, R46.	3.9	12
53	A self-replicating ligase ribozyme. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 12733-12740.	7.1	220
54	Substitution of Ribonucleotides in the T7 RNA Polymerase Promoter Element. Journal of Biological Chemistry, 2002, 277, 2987-2991.	3.4	13

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55	Continuous In Vitro Evolution of a Ribozyme that Catalyzes Three Successive Nucleotidyl Addition Reactions. Chemistry and Biology, 2002, 9, 585-596.	6.0	51
56	A ribozyme composed of only two different nucleotides. Nature, 2002, 420, 841-844.	27.8	98
57	The antiquity of RNA-based evolution. Nature, 2002, 418, 214-221.	27.8	914
58	Booting up life. Nature, 2002, 420, 278-279.	27.8	32
59	RNA-Catalyzed RNA Ligation on an External RNA Template. Chemistry and Biology, 2002, 9, 297-307.	6.0	46
60	The effect of cytidine on the structure and function of an RNA ligase ribozyme. Rna, 2001, 7, 395-404.	3.5	99
61	RNA Cleavage by the 10-23 DNA Enzyme. Methods in Enzymology, 2001, 341, 503-517.	1.0	49
62	Nucleoglycoconjugates: Design and Synthesis of a New Class of DNAâ€"Carbohydrate Conjugates. Angewandte Chemie - International Edition, 2000, 39, 3660-3663.	13.8	32
63	RNA Cleavage by a DNA Enzyme with Extended Chemical Functionality. Journal of the American Chemical Society, 2000, 122, 2433-2439.	13.7	352
64	A molecular description of the evolution of resistance. Chemistry and Biology, 1999, 6, 881-889.	6.0	24
65	A ribozyme that lacks cytidine. Nature, 1999, 402, 323-325.	27.8	91
66	Crystal structure of an 82-nucleotide RNA-DNA complex formed by the 10-23 DNA enzyme. Nature Structural Biology, 1999, 6, 151-156.	9.7	165
67	The counterforce. Current Biology, 1999, 9, R500-R501.	3.9	1
68	Origin and Ancestor: Separate Environments. Science, 1999, 283, 791c-791.	12.6	25
69	Mechanism and Utility of an RNA-Cleaving DNA Enzymeâ€. Biochemistry, 1998, 37, 13330-13342.	2.5	419
70	Continuous in Vitro Evolution of Catalytic Function. Science, 1997, 276, 614-617.	12.6	198
71	Amide Cleavage by a Ribozyme: Correction. Science, 1996, 272, 18-19.	12.6	0
72	Amide Cleavage by a Ribozyme: Correction. Science, 1996, 272, 18-19.	12.6	3

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73	Self-Incorporation of coenzymes by ribozymes. Journal of Molecular Evolution, 1995, 40, 551-558.	1.8	50
74	A DNA enzyme with Mg2+-dependent RNA phosphoesterase activity. Chemistry and Biology, 1995, 2, 655-660.	6.0	393
75	A DNA enzyme that cleaves RNA. Chemistry and Biology, 1994, 1, 223-229.	6.0	1,242
76	Evolution in vitro of an RNA enzyme with altered metal dependence. Nature, 1993, 361, 182-185.	27.8	209
77	Selection in vitro of an RNA enzyme that specifically cleaves single-stranded DNA. Nature, 1990, 344, 467-468.	27.8	1,249
78	RNA evolution and the origins of life. Nature, 1989, 338, 217-224.	27.8	599
79	Amplification, mutation and selection of catalytic RNA. Gene, 1989, 82, 83-87.	2.2	168