Jack W Szostak

List of Publications by Year
in descending order

260 papers	42,827 citations	2975 93 h-index	2332 199 g-index
293 all docs	293 docs citations	293 times ranked	22670 citing authors

#	Article	IF	Citations
1	In vitro selection of RNA molecules that bind specific ligands. Nature, 1990, 346, 818-822.	27.8	8,658
2	The double-strand-break repair model for recombination. Cell, 1983, 33, 25-35.	28.9	2,687
3	Synthesizing life. Nature, 2001, 409, 387-390.	27.8	1,537
4	In Vitro Selection of Functional Nucleic Acids. Annual Review of Biochemistry, 1999, 68, 611-647.	11.1	1,157
5	A mutant with a defect in telomere elongation leads to senescence in yeast. Cell, 1989, 57, 633-643.	28.9	885
6	Telomeres and telomerase: the path from maize, Tetrahymena and yeast to human cancer and aging. Nature Medicine, 2006, 12, 1133-1138.	30.7	824
7	Selection in vitro of single-stranded DNA molecules that fold into specific ligand-binding structures. Nature, 1992, 355, 850-852.	27.8	763
8	Experimental Models of Primitive Cellular Compartments: Encapsulation, Growth, and Division. Science, 2003, 302, 618-622.	12.6	741
9	Template-directed synthesis of a genetic polymer in a model protocell. Nature, 2008, 454, 122-125.	27.8	618
10	Double-strand breaks at an initiation site for meiotic gene conversion. Nature, 1989, 338, 87-90.	27.8	611
11	Cloning yeast telomeres on linear plasmid vectors. Cell, 1982, 29, 245-255.	28.9	586
12	An RNA motif that binds ATP. Nature, 1993, 364, 550-553.	27.8	585
13	Extensive 3â€²-overhanging, single-stranded DNA associated with the meiosis-specific double-strand breaks at the ARG4 recombination initiation site. Cell, 1991, 64, 1155-1161.	28.9	573
14	[14] Genetic applications of yeast transformation with linear and gapped plasmids. Methods in Enzymology, 1983, 101, 228-245.	1.0	515
15	DNA sequences of telomeres maintained in yeast. Nature, 1984, 310, 154-157.	27.8	515
16	Functional proteins from a random-sequence library. Nature, 2001, 410, 715-718.	27.8	506
17	Unequal crossing over in the ribosomal DNA of Saccharomyces cerevisiae. Nature, 1980, 284, 426-430.	27.8	456
18	Construction of artificial chromosomes in yeast. Nature, 1983, 305, 189-193.	27.8	448

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19	HIV-1 rev regulation involves recognition of non-Watson-Crick base pairs in viral RNA. Cell, 1991, 67, 529-536.	28.9	436
20	Coupled Growth and Division of Model Protocell Membranes. Journal of the American Chemical Society, 2009, 131, 5705-5713.	13.7	430
21	A DNA metalloenzyme with DNA ligase activity. Nature, 1995, 375, 611-614.	27.8	424
22	Pedigree analysis of plasmid segregation in yeast. Cell, 1983, 34, 961-970.	28.9	398
23	An initiation site for meiotic gene conversion in the yeast Saccharomyces cerevisiae. Nature, 1989, 338, 35-39.	27.8	380
24	The guanosine binding site of the Tetrahymena ribozyme. Nature, 1989, 342, 391-395.	27.8	379
25	The Emergence of Competition Between Model Protocells. Science, 2004, 305, 1474-1476.	12.6	373
26	Structural conventions for group I introns. Nucleic Acids Research, 1987, 15, 7217-7221.	14.5	290
27	Mettl1/Wdr4-Mediated m7G tRNA Methylome Is Required for Normal mRNA Translation and Embryonic Stem Cell Self-Renewal and Differentiation. Molecular Cell, 2018, 71, 244-255.e5.	9.7	276
28	A Genomewide Search for Ribozymes Reveals an HDV-Like Sequence in the Human CPEB3 Gene. Science, 2006, 313, 1788-1792.	12.6	268
29	Nonenzymatic Template-Directed RNA Synthesis Inside Model Protocells. Science, 2013, 342, 1098-1100.	12.6	264
30	In vitro evolution of new ribozymes with polynucleotide kinase activity. Nature, 1994, 371, 31-36.	27.8	261
31	The eightfold path to non-enzymatic RNA replication. Journal of Systems Chemistry, 2012, 3, .	1.7	261
32	In vitro evolution of a self-alkylatlng ribozyme. Nature, 1995, 374, 777-782.	27.8	254
33	Progress Toward Synthetic Cells. Annual Review of Biochemistry, 2014, 83, 615-640.	11.1	254
34	RNA Catalysis in Model Protocell Vesicles. Journal of the American Chemical Society, 2005, 127, 13213-13219.	13.7	242
35	Ribozyme-catalysed amino-acid transfer reactions. Nature, 1996, 381, 442-444.	27.8	239
36	RNA-catalysed synthesis of complementary-strand RNA. Nature, 1989, 339, 519-522.	27.8	236

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37	Competition between model protocells driven by an encapsulated catalyst. Nature Chemistry, 2013, 5, 495-501.	13.6	230
38	One-Step Purification of Recombinant Proteins Using a Nanomolar-Affinity Streptavidin-Binding Peptide, the SBP-Tag. Protein Expression and Purification, 2001, 23, 440-446.	1.3	221
39	Ribosomal Synthesis of Unnatural Peptides. Journal of the American Chemical Society, 2005, 127, 11727-11735.	13.7	217
40	Physical effects underlying the transition from primitive to modern cell membranes. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 5249-5254.	7.1	216
41	A Kinetic Study of the Growth of Fatty Acid Vesicles. Biophysical Journal, 2004, 87, 988-998.	0.5	211
42	<i>In Vitro</i> Selection of Highly Modified Cyclic Peptides That Act as Tight Binding Inhibitors. Journal of the American Chemical Society, 2012, 134, 10469-10477.	13.7	209
43	Selection and evolution of enzymes from a partially randomized non-catalytic scaffold. Nature, 2007, 448, 828-831.	27.8	208
44	RNA aptamers that bind flavin and nicotinamide redox cofactors. Journal of the American Chemical Society, 1995, 117, 1246-1257.	13.7	206
45	Chromosome Segregation in Mitosis and Meiosis. Annual Review of Cell Biology, 1985, 1, 289-315.	26.1	205
46	Telomeric repeat from T. thermophila cross hybridizes with human telomeres. Nature, 1988, 332, 656-659.	27.8	200
47	Replicating vesicles as models of primitive cell growth and division. Current Opinion in Chemical Biology, 2004, 8, 660-664.	6.1	199
48	Informational Complexity and Functional Activity of RNA Structures. Journal of the American Chemical Society, 2004, 126, 5130-5137.	13.7	196
49	Protocells and RNA Self-Replication. Cold Spring Harbor Perspectives in Biology, 2018, 10, a034801.	5.5	190
50	The Origins of Cellular Life. Cold Spring Harbor Perspectives in Biology, 2010, 2, a002212-a002212.	5.5	183
51	Thermostability of model protocell membranes. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 13351-13355.	7.1	179
52	mRNA display: from basic principles to macrocycle drug discovery. Drug Discovery Today, 2014, 19, 388-399.	6.4	175
53	Transfer of yeast telomeres to linear plasmids by recombination. Cell, 1984, 39, 191-201.	28.9	172
54	The ARD1 gene of yeast functions in the switch between the mitotic cell cycle and alternative developmental pathways. Cell, 1985, 43, 483-492.	28.9	171

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55	In vitro evolution suggests multiple origins for the hammerhead ribozyme. Nature, 2001, 414, 82-84.	27.8	168
56	Ribozyme-catalyzed tRNA aminoacylation. Nature Structural Biology, 2000, 7, 28-33.	9.7	164
57	Insertion of a genetic marker into the ribosomal DNA of yeast. Plasmid, 1979, 2, 536-554.	1.4	162
58	An Expanded Set of Amino Acid Analogs for the Ribosomal Translation of Unnatural Peptides. PLoS ONE, 2007, 2, e972.	2.5	158
59	Scanning the human proteome for calmodulin-binding proteins. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 5969-5974.	7.1	156
60	Enhanced Nonenzymatic RNA Copying with 2-Aminoimidazole Activated Nucleotides. Journal of the American Chemical Society, 2017, 139, 1810-1813.	13.7	156
61	In vitro genetics. Trends in Biochemical Sciences, 1992, 17, 89-93.	7.5	154
62	Stereospecific recognition of tryptophan agarose by in vitro selected RNA. Journal of the American Chemical Society, 1992, 114, 3990-3991.	13.7	152
63	Chromosome length controls mitotic chromosome segregation in yeast. Cell, 1986, 45, 529-536.	28.9	149
64	Isolation of high-affinity GTP aptamers from partially structured RNA libraries. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 11616-11621.	7.1	145
65	A Small Aptamer with Strong and Specific Recognition of the Triphosphate of ATP. Journal of the American Chemical Society, 2004, 126, 8370-8371.	13.7	144
66	Phylogenetic and genetic evidence for base-triples in the catalytic domain of group I introns. Nature, 1990, 347, 578-580.	27.8	143
67	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
68	Chemoselective Multicomponent One-Pot Assembly of Purine Precursors in Water. Journal of the American Chemical Society, 2010, 132, 16677-16688.	13.7	143
69	TNA Synthesis by DNA Polymerases. Journal of the American Chemical Society, 2003, 125, 9274-9275.	13.7	141
70	Expanding Roles for Diverse Physical Phenomena During the Origin of Life. Annual Review of Biophysics, 2010, 39, 245-263.	10.0	137
71	In vitro genetic analysis of the Tetrahymena self-splicing intron. Nature, 1990, 347, 406-408.	27.8	136
72	Enzymatic aminoacylation of tRNA with unnatural amino acids. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 4356-4361.	7.1	136

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73	Nonenzymatic, Template-Directed Ligation of Oligoribonucleotides Is Highly Regioselective for the Formation of 3â€˜â^’5â€˜ Phosphodiester Bonds. Journal of the American Chemical Society, 1996, 118, 3340-3344.	13.7	130
74	Selection of cyclic peptide aptamers to HCV IRES RNA using mRNA display. FASEB Journal, 2008, 22, 338-338.	0.5	128
75	Chance and Necessity in the Selection of Nucleic Acid Catalysts. Accounts of Chemical Research, 1996, 29, 103-110.	15.6	123
76	The Narrow Road to the Deep Past: In Search of the Chemistry of the Origin of Life. Angewandte Chemie - International Edition, 2017, 56, 11037-11043.	13.8	118
77	Is there left-handed DNA at the ends of yeast chromosomes?. Nature, 1983, 302, 84-86.	27.8	116
78	Constructing high complexity synthetic libraries of long ORFs using In Vitro selection. Journal of Molecular Biology, 2000, 297, 309-319.	4.2	115
79	Isolation and characterization of fluorophore-binding RNA aptamers. Folding & Design, 1998, 3, 423-431.	4.5	114
80	Concentration-Driven Growth of Model Protocell Membranes. Journal of the American Chemical Society, 2012, 134, 20812-20819.	13.7	114
81	Nonenzymatic copying of RNA templates containing all four letters is catalyzed by activated oligonucleotides. ELife, 2016, 5, .	6.0	113
82	Kinetic and Mechanistic Analysis of Nonenzymatic, Template-Directed Oligoribonucleotide Ligation. Journal of the American Chemical Society, 1996, 118, 3332-3339.	13.7	112
83	Formation of Protocell-like Vesicles in a Thermal Diffusion Column. Journal of the American Chemical Society, 2009, 131, 9628-9629.	13.7	111
84	DNA Polymerase-Mediated DNA Synthesis on a TNA Template. Journal of the American Chemical Society, 2003, 125, 856-857.	13.7	110
85	UV-light-driven prebiotic synthesis of ironâ€“sulfur clusters. Nature Chemistry, 2017, 9, 1229-1234.	13.6	110
86	Functional information: Molecular messages. Nature, 2003, 423, 689-689.	27.8	107
87	Aptamers Selected for Higher-Affinity Binding Are Not More Specific for the Target Ligand. Journal of the American Chemical Society, 2006, 128, 7929-7937.	13.7	107
88	Photochemically driven redox chemistry induces protocell membrane pearling and division. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 9828-9832.	7.1	107
89	Mineral Surface Directed Membrane Assembly. Origins of Life and Evolution of Biospheres, 2007, 37, 67-82.	1.9	106
90	Systems chemistry on early Earth. Nature, 2009, 459, 171-172.	27.8	106

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91	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
92	Rapid RNA Exchange in Aqueous Two-Phase System and Coacervate Droplets. Origins of Life and Evolution of Biospheres, 2014, 44, 1-12.	1.9	105
93	Enzymatic activity of the conserved core of a group I self-splicing intron. Nature, 1986, 322, 83-86.	27.8	102
94	Efficient and Rapid Template-Directed Nucleic Acid Copying Using 2â€²-Amino-2â€²,3â€²-dideoxyribonucleosideâ^'5â€²-Phosphorimidazolide Monomers. Journal of the American Chemical Society, 2009, 131, 14560-14570.	13.7	102
95	An optimal degree of physical and chemical heterogeneity for the origin of life?. Philosophical Transactions of the Royal Society B: Biological Sciences, 2011, 366, 2894-2901.	4.0	98
96	Isolation of a fluorophore-specific DNA aptamer with weak redox activity. Chemistry and Biology, 1998, 5, 609-617.	6.0	96
97	High fidelity TNA synthesis by Therminator polymerase. Nucleic Acids Research, 2005, 33, 5219-5225.	14.5	95
98	Ribosomal Synthesis of Dehydroalanine-Containing Peptides. Journal of the American Chemical Society, 2006, 128, 7150-7151.	13.7	94
99	Ribosomal Synthesis of <i>N</i>-Methyl Peptides. Journal of the American Chemical Society, 2008, 130, 6131-6136.	13.7	94
100	A simple physical mechanism enables homeostasis in primitive cells. Nature Chemistry, 2016, 8, 448-453.	13.6	94
101	Kinetic Analysis of an Efficient DNA-Dependent TNA Polymerase. Journal of the American Chemical Society, 2005, 127, 7427-7434.	13.7	93
102	An in Vitro Selection System for TNA. Journal of the American Chemical Society, 2005, 127, 2802-2803.	13.7	93
103	A Highly Reactive Imidazolium-Bridged Dinucleotide Intermediate in Nonenzymatic RNA Primer Extension. Journal of the American Chemical Society, 2016, 138, 11996-12002.	13.7	89
104	Functional RNAs exhibit tolerance for non-heritable 2â€²â€"5â€² versus 3â€²â€"5â€² backbone heterogeneity. Nature Chemistry, 2013, 5, 390-394.	13.6	88
105	Introduction:Â Combinatorial Chemistry. Chemical Reviews, 1997, 97, 347-348.	47.7	84
106	Divergent prebiotic synthesis of pyrimidine and 8-oxo-purine ribonucleotides. Nature Communications, 2017, 8, 15270.	12.8	84
107	In Vitro Selection of Specific Ligand-binding Nucleic Acids. Angewandte Chemie International Edition in English, 1992, 31, 979-988.	4.4	81
108	Common and Potentially Prebiotic Origin for Precursors of Nucleotide Synthesis and Activation. Journal of the American Chemical Society, 2017, 139, 8780-8783.	13.7	81

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109	Copying of Mixed-Sequence RNA Templates inside Model Protocells. Journal of the American Chemical Society, 2018, 140, 5171-5178.	13.7	80
110	DNA sequence of a mutation in the leader region of the yeast iso-1-cytochrome c mRNA. Cell, 1981, 25, 277-284.	28.9	79
111	Mutational analysis of conserved nucleotides in a self-splicing group I intron. Journal of Molecular Biology, 1990, 215, 345-358.	4.2	73
112	Chain-Length Heterogeneity Allows for the Assembly of Fatty Acid Vesicles in Dilute Solutions. Biophysical Journal, 2014, 107, 1582-1590.	0.5	73
113	Evolution of aptamers with a new specificity and new secondary structures from an ATP aptamer. Rna, 2003, 9, 1456-1463.	3.5	72
114	Enzymatic synthesis of DNA on glycerol nucleic acid templates without stable duplex formation between product and template. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 14598-14603.	7.1	71
115	Fast and accurate nonenzymatic copying of an RNA-like synthetic genetic polymer. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 17732-17737.	7.1	71
116	Replacing Uridine with 2-Thiouridine Enhances the Rate and Fidelity of Nonenzymatic RNA Primer Extension. Journal of the American Chemical Society, 2015, 137, 2769-2775.	13.7	71
117	Reverse transcriptase reads through a 2â€²â€“5â€² linkage and a 2â€²-thiphosphate in a template. Nucleic Acids Research, 1995, 23, 2811-2814.	14.5	70
118	Preparation of Large Monodisperse Vesicles. PLoS ONE, 2009, 4, e5009.	2.5	69
119	Fatty Acid/Phospholipid Blended Membranes: A Potential Intermediate State in Protocellular Evolution. Small, 2018, 14, e1704077.	10.0	69
120	Ribozymes: aiming at RNA replication and protein synthesis. Chemistry and Biology, 1996, 3, 717-725.	6.0	67
121	Solution structure of an informationally complex high-affinity RNA aptamer to GTP. Rna, 2006, 12, 567-579.	3.5	64
122	Collaboration between primitive cell membranes and soluble catalysts. Nature Communications, 2016, 7, 11041.	12.8	64
123	Isolation of novel ribozymes that ligate AMP-activated RNA substrates. Chemistry and Biology, 1997, 4, 607-617.	6.0	63
124	N2â€²â†'P3â€² Phosphoramidate Glycerol Nucleic Acid as a Potential Alternative Genetic System. Journal of the American Chemical Society, 2009, 131, 2119-2121.	13.7	61
125	Multicomponent Assembly of Proposed DNA Precursors in Water. Journal of the American Chemical Society, 2012, 134, 13889-13895.	13.7	61
126	The Mechanism of Nonenzymatic Template Copying with Imidazoleâ€Activated Nucleotides. Angewandte Chemie - International Edition, 2019, 58, 10812-10819.	13.8	59

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127	The Origins of Nucleotides. Synlett, 2011, 2011, 1956-1964.	1.8	58
128	Attempts to Define Life Do Not Help to Understand the Origin of Life. Journal of Biomolecular Structure and Dynamics, 2012, 29, 599-600.	3.5	58
129	Structural and Kinetic Characterization of an Acyl Transferase Ribozyme. Journal of the American Chemical Society, 1998, 120, 1151-1156.	13.7	57
130	Expanding the structural and functional diversity of RNA: analog uridine triphosphates as candidates for in vitro selection of nucleic acids. Nucleic Acids Research, 2000, 28, 3316-3322.	14.5	57
131	In Vitro Selection of Functional Lantipeptides. Journal of the American Chemical Society, 2012, 134, 8038-8041.	13.7	57
132	Electrostatic Localization of RNA to Protocell Membranes by Cationic Hydrophobic Peptides. Angewandte Chemie - International Edition, 2015, 54, 11735-11739.	13.8	57
133	Origin of Life on Earth. Scientific American, 2009, 301, 54-61.	1.0	56
134	Isolation of a ribozyme with 5â€²-5â€² ligase activity. Chemistry and Biology, 1995, 2, 325-333.	6.0	54
135	Identification of epitope-like consensus motifs using mRNA display. Journal of Molecular Recognition, 2002, 15, 126-134.	2.1	54
136	Evolution of functional nucleic acids in the presence of nonheritable backbone heterogeneity. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 13492-13497.	7.1	52
137	A Kinetic Model of Nonenzymatic RNA Polymerization by Cytidine-5â€²-phosphoro-2-aminoimidazolide. Biochemistry, 2017, 56, 5739-5747.	2.5	51
138	Thermodynamic insights into 2-thiouridine-enhanced RNA hybridization. Nucleic Acids Research, 2015, 43, 7675-7687.	14.5	50
139	Specific binding of a synthetic oligodeoxyribonucleotide to yeast cytochrome c mRNA. Nature, 1977, 265, 61-63.	27.8	48
140	In vitro genetic analysis of the hinge region between helical elements P5-P4-P6 and P7-P3-P8 in the sunY group I self-splicing intron. Journal of Molecular Biology, 1994, 235, 140-155.	4.2	48
141	Structural insights into the effects of 2â€²-5â€² linkages on the RNA duplex. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3050-3055.	7.1	48
142	Inosine, but none of the 8-oxo-purines, is a plausible component of a primordial version of RNA. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 13318-13323.	7.1	47
143	Synthesis of N3â€²-P5â€²-linked Phosphoramidate DNA by Nonenzymatic Template-Directed Primer Extension. Journal of the American Chemical Society, 2013, 135, 924-932.	13.7	46
144	Mutant ATP-binding RNA aptamers reveal the structural basis for ligand binding. Journal of Molecular Biology, 1997, 273, 467-478.	4.2	45

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145	<i>N</i>-Carboxyanhydride-Mediated Fatty Acylation of Amino Acids and Peptides for Functionalization of Protocell Membranes. Journal of the American Chemical Society, 2016, 138, 16669-16676.	13.7	45
146	Metal-ion catalyzed polymerization in the eutectic phase in waterâ€"ice: A possible approach to template-directed RNA polymerization. Journal of Inorganic Biochemistry, 2008, 102, 1104-1111.	3.5	44
147	Single-Molecule Imaging of an <i>in Vitro</i>-Evolved RNA Aptamer Reveals Homogeneous Ligand Binding Kinetics. Journal of the American Chemical Society, 2009, 131, 9866-9867.	13.7	44
148	Crystal Structure Studies of RNA Duplexes Containing s²U:A and s²U:U Base Pairs. Journal of the American Chemical Society, 2014, 136, 13916-13924.	13.7	44
149	Chemical synthesis of oligoribonucleotides containing 2-aminopurine: substrates for the investigation of ribozyme function. Journal of Organic Chemistry, 1990, 55, 5547-5549.	3.2	43
150	A Model for the Emergence of RNA from a Prebiotically Plausible Mixture of Ribonucleotides, Arabinonucleotides, and 2â€²-Deoxynucleotides. Journal of the American Chemical Society, 2020, 142, 2317-2326.	13.7	43
151	Activated Ribonucleotides Undergo a Sugar Pucker Switch upon Binding to a Single-Stranded RNA Template. Journal of the American Chemical Society, 2012, 134, 3691-3694.	13.7	42
152	Oligoarginine peptides slow strand annealing and assist non-enzymatic RNA replication. Nature Chemistry, 2016, 8, 915-921.	13.6	40
153	Templateâ€Directed Copying of RNA by Nonâ€enzymatic Ligation. Angewandte Chemie - International Edition, 2020, 59, 15682-15687.	13.8	39
154	Non-enzymatic primer extension with strand displacement. ELife, 2019, 8, .	6.0	39
155	Artificial Chromosomes. Scientific American, 1987, 257, 62-68.	1.0	37
156	Synthesis of RNA containing inosine: analysis of the sequence requirements for the 5â€² splice site of theTetrahymenagroup I intron. Nucleic Acids Research, 1991, 19, 4161-4166.	14.5	37
157	Glycerol Nucleoside Triphosphates:â€‰ Synthesis and Polymerase Substrate Activities. Organic Letters, 2006, 8, 5345-5347.	4.6	37
158	Nonenzymatic Template-Directed Synthesis of Mixed-Sequence 3â€²-NP-DNA up to 25 Nucleotides Long Inside Model Protocells. Journal of the American Chemical Society, 2019, 141, 10481-10488.	13.7	37
159	Bulk Self-Assembly of Giant, Unilamellar Vesicles. ACS Nano, 2020, 14, 14627-14634.	14.6	37
160	Artificial lantipeptides from in vitro translations. Chemical Communications, 2011, 47, 6141.	4.1	36
161	The virtual circular genome model for primordial RNA replication. Rna, 2021, 27, 1-11.	3.5	36
162	The Free Energy Landscape of Pseudorotation in 3â€²â€"5â€² and 2â€²â€"5â€² Linked Nucleic Acids. Journal of the American Chemical Society, 2014, 136, 2858-2865.	13.7	35

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163	Multiple, Tandem Plasmid Integration in Saccharomyces cerevisiae. Molecular and Cellular Biology, 1983, 3, 747-749.	2.3	34
164	Directed Evolution of ATP Binding Proteins from a Zinc Finger Domain by Using mRNA Display. Chemistry and Biology, 2006, 13, 139-147.	6.0	33
165	Core-Shell Modeling of Light Scattering by Vesicles: Effect of Size, Contents, and Lamellarity. Biophysical Journal, 2019, 116, 659-669.	0.5	33
166	Synthesis and Nonenzymatic Template-Directed Polymerization of 2â€²-Amino-2â€²-deoxythreose Nucleotides. Journal of the American Chemical Society, 2014, 136, 2033-2039.	13.7	32
167	Insight into the mechanism of nonenzymatic RNA primer extension from the structure of an RNA-GpppG complex. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 7659-7664.	7.1	32
168	Assembly of a Ribozyme Ligase from Short Oligomers by Nonenzymatic Ligation. Journal of the American Chemical Society, 2020, 142, 15961-15965.	13.7	32
169	Evolutionary Optimization of a Nonbiological ATP Binding Protein for Improved Folding Stability. Chemistry and Biology, 2004, 11, 865-874.	6.0	30
170	Unusual Base-Pairing Interactions in Monomerâ€"Template Complexes. ACS Central Science, 2016, 2, 916-926.	11.3	30
171	Crystallographic observation of nonenzymatic RNA primer extension. ELife, 2018, 7, .	6.0	30
172	Inâ€vitroâ€Selektion spezifisch ligandenbindender NucleinsÃuren. Angewandte Chemie, 1992, 104, 1001-1011.	2.0	29
173	[18] Yeast vectors with negative selection. Methods in Enzymology, 1983, 101, 278-290.	1.0	28
174	Uncovering the Thermodynamics of Monomer Binding for RNA Replication. Journal of the American Chemical Society, 2015, 137, 6373-6382.	13.7	28
175	Der schmale Pfad tief in die Vergangenheit: auf der Suche nach der Chemie der AnfÃnge des Lebens. Angewandte Chemie, 2017, 129, 11182-11189.	2.0	28
176	Structural Rationale for the Enhanced Catalysis of Nonenzymatic RNA Primer Extension by a Downstream Oligonucleotide. Journal of the American Chemical Society, 2018, 140, 2829-2840.	13.7	28
177	Potentially Prebiotic Activation Chemistry Compatible with Nonenzymatic RNA Copying. Journal of the American Chemical Society, 2020, 142, 14810-14813.	13.7	28
178	Freeze-thaw cycles enable a prebiotically plausible and continuous pathway from nucleotide activation to nonenzymatic RNA copying. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2116429119.	7.1	28
179	Synthesis of Î±-l-Threofuranosyl Nucleoside Triphosphates (tNTPs). Organic Letters, 2005, 7, 1485-1487.	4.6	27
180	Controlled Growth of Filamentous Fatty Acid Vesicles under Flow. Langmuir, 2014, 30, 14916-14925.	3.5	27

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181	Shrink-Wrap Vesicles. Langmuir, 2005, 21, 12124-12129.	3.5	25
182	Enzymatic Primer-Extension with Glycerol-Nucleoside Triphosphates on DNA Templates. PLoS ONE, 2009, 4, e4949.	2.5	25
183	Bidirectional Direct Sequencing of Noncanonical RNA by Two-Dimensional Analysis of Mass Chromatograms. Journal of the American Chemical Society, 2015, 137, 14430-14438.	13.7	25
184	Deep sequencing of non-enzymatic RNA primer extension. Nucleic Acids Research, 2020, 48, e70-e70.	14.5	25
185	In vitro selection of ribozyme ligases that use prebiotically plausible 2-aminoimidazoleâ€"activated substrates. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 5741-5748.	7.1	25
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