Jack W Szostak

List of Publications by Citations

260 papers	35,554 citations	86 h-index	187 g-index
293 ext. papers	39,126 ext. citations	17.9 avg, IF	7.59 L-index

#	Paper	IF	Citations
260	In vitro selection of RNA molecules that bind specific ligands. *Nature*, **1990**, 346, 818-22	50.4	7326
259	The double-strand-break repair model for recombination. *Cell*, **1983**, 33, 25-35	56.2	2305
258	Synthesizing life. *Nature*, **2001**, 409, 387-90	50.4	1268
257	In vitro selection of functional nucleic acids. *Annual Review of Biochemistry*, **1999**, 68, 611-47	29.1	1025
256	A mutant with a defect in telomere elongation leads to senescence in yeast. *Cell*, **1989**, 57, 633-43	56.2	785
255	Telomeres and telomerase: the path from maize, Tetrahymena and yeast to human cancer and aging. *Nature Medicine*, **2006**, 12, 1133-8	50.5	663
254	Selection in vitro of single-stranded DNA molecules that fold into specific ligand-binding structures. *Nature*, **1992**, 355, 850-2	50.4	643
253	Experimental models of primitive cellular compartments: encapsulation, growth, and division. *Science*, **2003**, 302, 618-22	33.3	615
252	An RNA motif that binds ATP. *Nature*, **1993**, 364, 550-3	50.4	522
251	Template-directed synthesis of a genetic polymer in a model protocell. *Nature*, **2008**, 454, 122-5	50.4	518
250	Double-strand breaks at an initiation site for meiotic gene conversion. *Nature*, **1989**, 338, 87-90	50.4	507
249	Cloning yeast telomeres on linear plasmid vectors. *Cell*, **1982**, 29, 245-55	56.2	500
248	Extensive 3'-overhanging, single-stranded DNA associated with the meiosis-specific double-strand breaks at the ARG4 recombination initiation site. *Cell*, **1991**, 64, 1155-61	56.2	497
247	DNA sequences of telomeres maintained in yeast. *Nature*, **1984**, 310, 154-7	50.4	455
246	Genetic applications of yeast transformation with linear and gapped plasmids. *Methods in Enzymology*, **1983**, 101, 228-45	1.7	449
245	Functional proteins from a random-sequence library. *Nature*, **2001**, 410, 715-8	50.4	413
244	Construction of artificial chromosomes in yeast. *Nature*, **1983**, 305, 189-93	50.4	387

243	A DNA metalloenzyme with DNA ligase activity. *Nature*, **1995**, 375, 611-4	50.4	382
242	Unequal crossing over in the ribosomal DNA of Saccharomyces cerevisiae. *Nature*, **1980**, 284, 426-30	50.4	382
241	HIV-1 Rev regulation involves recognition of non-Watson-Crick base pairs in viral RNA. *Cell*, **1991**, 67, 529-36	56.2	366
240	The guanosine binding site of the Tetrahymena ribozyme. *Nature*, **1989**, 342, 391-5	50.4	358
239	Pedigree analysis of plasmid segregation in yeast. *Cell*, **1983**, 34, 961-70	56.2	358
238	Coupled growth and division of model protocell membranes. *Journal of the American Chemical Society*, **2009**, 131, 5705-13	16.4	347
237	The emergence of competition between model protocells. *Science*, **2004**, 305, 1474-6	33.3	322
236	An initiation site for meiotic gene conversion in the yeast Saccharomyces cerevisiae. *Nature*, **1989**, 338, 35-9	50.4	308
235	Structural conventions for group I introns. *Nucleic Acids Research*, **1987**, 15, 7217-21	20.1	276
234	In vitro evolution of new ribozymes with polynucleotide kinase activity. *Nature*, **1994**, 371, 31-6	50.4	234
233	A genomewide search for ribozymes reveals an HDV-like sequence in the human CPEB3 gene. *Science*, **2006**, 313, 1788-92	33.3	231
232	In vitro evolution of a self-alkylating ribozyme. *Nature*, **1995**, 374, 777-82	50.4	222
231	Nonenzymatic template-directed RNA synthesis inside model protocells. *Science*, **2013**, 342, 1098-100	33.3	213
230	Ribozyme-catalysed amino-acid transfer reactions. *Nature*, **1996**, 381, 442-4	50.4	209
229	Progress toward synthetic cells. *Annual Review of Biochemistry*, **2014**, 83, 615-40	29.1	207
228	RNA-catalysed synthesis of complementary-strand RNA. *Nature*, **1989**, 339, 519-22	50.4	204
227	The eightfold path to non-enzymatic RNA replication. *Journal of Systems Chemistry*, **2012**, 3,		203
226	RNA catalysis in model protocell vesicles. *Journal of the American Chemical Society*, **2005**, 127, 13213-9	16.4	194

225	One-step purification of recombinant proteins using a nanomolar-affinity streptavidin-binding peptide, the SBP-Tag. *Protein Expression and Purification*, **2001**, 23, 440-6	2	193
224	Ribosomal synthesis of unnatural peptides. *Journal of the American Chemical Society*, **2005**, 127, 11727-35	16.4	191
223	Telomeric repeat from T. thermophila cross hybridizes with human telomeres. *Nature*, **1988**, 332, 656-9	50.4	189
222	RNA aptamers that bind flavin and nicotinamide redox cofactors. *Journal of the American Chemical Society*, **1995**, 117, 1246-57	16.4	187
221	A kinetic study of the growth of fatty acid vesicles. *Biophysical Journal*, **2004**, 87, 988-98	2.9	185
220	Competition between model protocells driven by an encapsulated catalyst. *Nature Chemistry*, **2013**, 5, 495-501	17.6	183
219	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, 5249-54	11.5	183
218	Selection and evolution of enzymes from a partially randomized non-catalytic scaffold. *Nature*, **2007**, 448, 828-31	50.4	182
217	Chromosome segregation in mitosis and meiosis. *Annual Review of Cell Biology*, **1985**, 1, 289-315		170
216	In vitro selection of highly modified cyclic peptides that act as tight binding inhibitors. *Journal of the American Chemical Society*, **2012**, 134, 10469-77	16.4	169
215	Informational complexity and functional activity of RNA structures. *Journal of the American Chemical Society*, **2004**, 126, 5130-7	16.4	166
214	Replicating vesicles as models of primitive cell growth and division. *Current Opinion in Chemical Biology*, **2004**, 8, 660-4	9.7	164
213	Transfer of yeast telomeres to linear plasmids by recombination. *Cell*, **1984**, 39, 191-201	56.2	154
212	The ARD1 gene of yeast functions in the switch between the mitotic cell cycle and alternative developmental pathways. *Cell*, **1985**, 43, 483-92	56.2	154
211	In vitro evolution suggests multiple origins for the hammerhead ribozyme. *Nature*, **2001**, 414, 82-4	50.4	145
210	Insertion of a genetic marker into the ribosomal DNA of yeast. *Plasmid*, **1979**, 2, 536-54	3.3	145
209	Thermostability of model protocell membranes. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 13351-5	11.5	142
208	The origins of cellular life. *Cold Spring Harbor Perspectives in Biology*, **2010**, 2, a002212	10.2	140

207	In vitro genetics. *Trends in Biochemical Sciences*, **1992**, 17, 89-93	10.3	139
206	Scanning the human proteome for calmodulin-binding proteins. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 5969-74	11.5	138
205	Ribozyme-catalyzed tRNA aminoacylation. *Nature Structural Biology*, **2000**, 7, 28-33		138
204	Stereospecific recognition of tryptophan agarose by in vitro selected RNA. *Journal of the American Chemical Society*, **1992**, 114, 3990-3991	16.4	137
203	mRNA display: from basic principles to macrocycle drug discovery. *Drug Discovery Today*, **2014**, 19, 388-99	8.8	135
202	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, 7965-70	11.5	135
201	A small aptamer with strong and specific recognition of the triphosphate of ATP. *Journal of the American Chemical Society*, **2004**, 126, 8370-1	16.4	135
200	An expanded set of amino acid analogs for the ribosomal translation of unnatural peptides. *PLoS ONE*, **2007**, 2, e972	3.7	134
199	Phylogenetic and genetic evidence for base-triples in the catalytic domain of group I introns. *Nature*, **1990**, 347, 578-80	50.4	133
198	Chromosome length controls mitotic chromosome segregation in yeast. *Cell*, **1986**, 45, 529-36	56.2	131
197	TNA synthesis by DNA polymerases. *Journal of the American Chemical Society*, **2003**, 125, 9274-5	16.4	126
196	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, 11616-21	11.5	125
195	Mettl1/Wdr4-Mediated mG tRNA Methylome Is Required for Normal mRNA Translation and Embryonic Stem Cell Self-Renewal and Differentiation. *Molecular Cell*, **2018**, 71, 244-255.e5	17.6	124
194	Chemoselective multicomponent one-pot assembly of purine precursors in water. *Journal of the American Chemical Society*, **2010**, 132, 16677-88	16.4	123
193	In vitro genetic analysis of the Tetrahymena self-splicing intron. *Nature*, **1990**, 347, 406-8	50.4	120
192	Enzymatic aminoacylation of tRNA with unnatural amino acids. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 4356-61	11.5	114
191	Expanding roles for diverse physical phenomena during the origin of life. *Annual Review of Biophysics*, **2010**, 39, 245-63	21.1	112
190	Nonenzymatic, template-directed ligation of oligoribonucleotides is highly regioselective for the formation of 3'-5' phosphodiester bonds. *Journal of the American Chemical Society*, **1996**, 118, 3340-4	16.4	109

189	Is there left-handed DNA at the ends of yeast chromosomes?. *Nature*, **1983**, 302, 84-6	50.4	108
188	Constructing high complexity synthetic libraries of long ORFs using in vitro selection. *Journal of Molecular Biology*, **2000**, 297, 309-19	6.5	107
187	Protocells and RNA Self-Replication. *Cold Spring Harbor Perspectives in Biology*, **2018**, 10,	10.2	104
186	Concentration-driven growth of model protocell membranes. *Journal of the American Chemical Society*, **2012**, 134, 20812-9	16.4	102
185	Chance and necessity in the selection of nucleic acid catalysts. *Accounts of Chemical Research*, **1996**, 29, 103-10	24.3	102
184	Enhanced Nonenzymatic RNA Copying with 2-Aminoimidazole Activated Nucleotides. *Journal of the American Chemical Society*, **2017**, 139, 1810-1813	16.4	100
183	Isolation and characterization of fluorophore-binding RNA aptamers. *Folding & Design*, **1998**, 3, 423-31		98
182	Aptamers selected for higher-affinity binding are not more specific for the target ligand. *Journal of the American Chemical Society*, **2006**, 128, 7929-37	16.4	98
181	Formation of protocell-like vesicles in a thermal diffusion column. *Journal of the American Chemical Society*, **2009**, 131, 9628-9	16.4	97
180	DNA polymerase-mediated DNA synthesis on a TNA template. *Journal of the American Chemical Society*, **2003**, 125, 856-7	16.4	95
179	Kinetic and mechanistic analysis of nonenzymatic, template-directed oligoribonucleotide ligation. *Journal of the American Chemical Society*, **1996**, 118, 3332-9	16.4	95
178	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, 9828-32	11.5	94
177	Efficient and rapid template-directed nucleic acid copying using 2'-amino-2',3'-dideoxyribonucleoside-5'-phosphorimidazolide monomers. *Journal of the American Chemical Society*, **2009**, 131, 14560-70	16.4	88
176	Effect of stalling after mismatches on the error catastrophe in nonenzymatic nucleic acid replication. *Journal of the American Chemical Society*, **2010**, 132, 5880-5	16.4	87
175	Enzymatic activity of the conserved core of a group I self-splicing intron. *Nature*, **1986**, 322, 83-6	50.4	86
174	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	16.4	85
173	Ribosomal synthesis of N-methyl peptides. *Journal of the American Chemical Society*, **2008**, 130, 6131-6	16.4	85
172	Isolation of a fluorophore-specific DNA aptamer with weak redox activity. *Chemistry and Biology*, **1998**, 5, 609-17		84

171	Mineral surface directed membrane assembly. *Origins of Life and Evolution of Biospheres*, **2007**, 37, 67-82	1.5	84
170	Ribosomal synthesis of dehydroalanine-containing peptides. *Journal of the American Chemical Society*, **2006**, 128, 7150-1	16.4	84
169	An optimal degree of physical and chemical heterogeneity for the origin of life?. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2011**, 366, 2894-901	5.8	82
168	High fidelity TNA synthesis by Therminator polymerase. *Nucleic Acids Research*, **2005**, 33, 5219-25	20.1	82
167	Kinetic analysis of an efficient DNA-dependent TNA polymerase. *Journal of the American Chemical Society*, **2005**, 127, 7427-34	16.4	80
166	An in vitro selection system for TNA. *Journal of the American Chemical Society*, **2005**, 127, 2802-3	16.4	80
165	Nonenzymatic copying of RNA templates containing all four letters is catalyzed by activated oligonucleotides. *ELife*, **2016**, 5,	8.9	77
164	Rapid RNA exchange in aqueous two-phase system and coacervate droplets. *Origins of Life and Evolution of Biospheres*, **2014**, 44, 1-12	1.5	76
163	Introduction: Combinatorial Chemistry. *Chemical Reviews*, **1997**, 97, 347-348	68.1	74
162	UV-light-driven prebiotic synthesis of iron-sulfur clusters. *Nature Chemistry*, **2017**, 9, 1229-1234	17.6	72
161	In Vitro Selection of Specific Ligand-binding Nucleic Acids. *Angewandte Chemie International Edition in English*, **1992**, 31, 979-988		72
160	Mutational analysis of conserved nucleotides in a self-splicing group I intron. *Journal of Molecular Biology*, **1990**, 215, 345-58	6.5	70
159	DNA sequence of a mutation in the leader region of the yeast iso-1-cytochrome c mRNA. *Cell*, **1981**, 25, 277-84	56.2	70
158	Functional RNAs exhibit tolerance for non-heritable 2'-5' versus 3'-5' backbone heterogeneity. *Nature Chemistry*, **2013**, 5, 390-4	17.6	69
157	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, 14598-603	11.5	67
156	A simple physical mechanism enables homeostasis in primitive cells. *Nature Chemistry*, **2016**, 8, 448-53	17.6	66
155	Reverse transcriptase reads through a 2'-5'linkage and a 2'-thiophosphate in a template. *Nucleic Acids Research*, **1995**, 23, 2811-4	20.1	65
154	Divergent prebiotic synthesis of pyrimidine and 8-oxo-purine ribonucleotides. *Nature Communications*, **2017**, 8, 15270	17.4	63

153	Common and Potentially Prebiotic Origin for Precursors of Nucleotide Synthesis and Activation. *Journal of the American Chemical Society*, **2017**, 139, 8780-8783	16.4	62
152	A Highly Reactive Imidazolium-Bridged Dinucleotide Intermediate in Nonenzymatic RNA Primer Extension. *Journal of the American Chemical Society*, **2016**, 138, 11996-2002	16.4	61
151	Preparation of large monodisperse vesicles. *PLoS ONE*, **2009**, 4, e5009	3.7	60
150	Evolution of aptamers with a new specificity and new secondary structures from an ATP aptamer. *Rna*, **2003**, 9, 1456-63	5.8	60
149	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, 17732-7	11.5	58
148	Solution structure of an informationally complex high-affinity RNA aptamer to GTP. *Rna*, **2006**, 12, 567-79	3.8	58
147	Functional information: Molecular messages. *Nature*, **2003**, 423, 689	50.4	57
146	Ribozymes: aiming at RNA replication and protein synthesis. *Chemistry and Biology*, **1996**, 3, 717-25		56
145	Replacing uridine with 2-thiouridine enhances the rate and fidelity of nonenzymatic RNA primer extension. *Journal of the American Chemical Society*, **2015**, 137, 2769-75	16.4	55
144	Chain-length heterogeneity allows for the assembly of fatty acid vesicles in dilute solutions. *Biophysical Journal*, **2014**, 107, 1582-90	2.9	54
143	N2'-->p3' phosphoramidate glycerol nucleic acid as a potential alternative genetic system. *Journal of the American Chemical Society*, **2009**, 131, 2119-21	16.4	54
142	Isolation of novel ribozymes that ligate AMP-activated RNA substrates. *Chemistry and Biology*, **1997**, 4, 607-17		54
141	Copying of Mixed-Sequence RNA Templates inside Model Protocells. *Journal of the American Chemical Society*, **2018**, 140, 5171-5178	16.4	52
140	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, 3316-22	20.1	51
139	Structural and kinetic characterization of an acyl transferase ribozyme. *Journal of the American Chemical Society*, **1998**, 120, 1151-6	16.4	51
138	In vitro selection of functional lantipeptides. *Journal of the American Chemical Society*, **2012**, 134, 8038-41	16.4	50
137	Multicomponent assembly of proposed DNA precursors in water. *Journal of the American Chemical Society*, **2012**, 134, 13889-95	16.4	50
136	Isolation of a ribozyme with 5'-5' ligase activity. *Chemistry and Biology*, **1995**, 2, 325-33		50

135	The Origins of Nucleotides. *Synlett*, **2011**, 2011, 1956-1964	2.2	48
134	Identification of epitope-like consensus motifs using mRNA display. *Journal of Molecular Recognition*, **2002**, 15, 126-34	2.6	48
133	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, 140-55	6.5	47
132	Collaboration between primitive cell membranes and soluble catalysts. *Nature Communications*, **2016**, 7, 11041	17.4	46
131	Fatty Acid/Phospholipid Blended Membranes: A Potential Intermediate State in Protocellular Evolution. *Small*, **2018**, 14, e1704077	11	45
130	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, 13492-7	11.5	44
129	Attempts to define life do not help to understand the origin of life. *Journal of Biomolecular Structure and Dynamics*, **2012**, 29, 599-600	3.6	43
128	Specific binding of a synthetic oligodeoxyribonucleotide to yeast cytochrome c mRNA. *Nature*, **1977**, 265, 61-3	50.4	43
127	Electrostatic Localization of RNA to Protocell Membranes by Cationic Hydrophobic Peptides. *Angewandte Chemie - International Edition*, **2015**, 54, 11735-9	16.4	41
126	Synthesis of N3'-P5'-linked phosphoramidate DNA by nonenzymatic template-directed primer extension. *Journal of the American Chemical Society*, **2013**, 135, 924-32	16.4	41
125	Origin of life on earth. *Scientific American*, **2009**, 301, 54-61	0.5	41
124	Mutant ATP-binding RNA aptamers reveal the structural basis for ligand binding. *Journal of Molecular Biology*, **1997**, 273, 467-78	6.5	41
123	Thermodynamic insights into 2-thiouridine-enhanced RNA hybridization. *Nucleic Acids Research*, **2015**, 43, 7675-87	20.1	39
122	Single-molecule imaging of an in vitro-evolved RNA aptamer reveals homogeneous ligand binding kinetics. *Journal of the American Chemical Society*, **2009**, 131, 9866-7	16.4	39
121	Chemical synthesis of oligoribonucleotides containing 2-aminopurine: substrates for the investigation of ribozyme function. *Journal of Organic Chemistry*, **1990**, 55, 5547-9	4.2	38
120	Synthesis of RNA containing inosine: analysis of the sequence requirements for the 5' splice site of the Tetrahymena group I intron. *Nucleic Acids Research*, **1991**, 19, 4161-6	20.1	37
119	Oligoarginine peptides slow strand annealing and assist non-enzymatic RNA replication. *Nature Chemistry*, **2016**, 8, 915-21	17.6	36
118	Metal-ion catalyzed polymerization in the eutectic phase in water-ice: a possible approach to template-directed RNA polymerization. *Journal of Inorganic Biochemistry*, **2008**, 102, 1104-11	4.2	36

117	Glycerol nucleoside triphosphates: synthesis and polymerase substrate activities. *Organic Letters*, **2006**, 8, 5345-7	6.2	36
116	Crystal structure studies of RNA duplexes containing s(2)U:A and s(2)U:U base pairs. *Journal of the American Chemical Society*, **2014**, 136, 13916-24	16.4	34
115	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	11.5	34
114	A Kinetic Model of Nonenzymatic RNA Polymerization by Cytidine-5'-phosphoro-2-aminoimidazolide. *Biochemistry*, **2017**, 56, 5739-5747	3.2	32
113	Structural insights into the effects of 2'-5' linkages on the RNA duplex. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 3050-5	11.5	32
112	Artificial lantipeptides from in vitro translations. *Chemical Communications*, **2011**, 47, 6141-3	5.8	32
111	Artificial chromosomes. *Scientific American*, **1987**, 257, 62-8	0.5	32
110	N-Carboxyanhydride-Mediated Fatty Acylation of Amino Acids and Peptides for Functionalization of Protocell Membranes. *Journal of the American Chemical Society*, **2016**, 138, 16669-16676	16.4	30
109	Activated ribonucleotides undergo a sugar pucker switch upon binding to a single-stranded RNA template. *Journal of the American Chemical Society*, **2012**, 134, 3691-4	16.4	30
108	The free energy landscape of pseudorotation in 3'-5' and 2'-5' linked nucleic acids. *Journal of the American Chemical Society*, **2014**, 136, 2858-65	16.4	28
107	Directed evolution of ATP binding proteins from a zinc finger domain by using mRNA display. *Chemistry and Biology*, **2006**, 13, 139-47		28
106	Multiple, Tandem Plasmid Integration in Saccharomyces cerevisiae. *Molecular and Cellular Biology*, **1983**, 3, 747-749	4.8	27
105	Der schmale Pfad tief in die Vergangenheit: auf der Suche nach der Chemie der Anfänge des Lebens. *Angewandte Chemie*, **2017**, 129, 11182-11189	3.6	25
104	Synthesis of alpha-L-threofuranosyl nucleoside triphosphates (tNTPs). *Organic Letters*, **2005**, 7, 1485-7	6.2	25
103	A Model for the Emergence of RNA from a Prebiotically Plausible Mixture of Ribonucleotides, Arabinonucleotides, and 2'-Deoxynucleotides. *Journal of the American Chemical Society*, **2020**, 142, 2317-2326	16.4	25
102	Controlled growth of filamentous fatty acid vesicles under flow. *Langmuir*, **2014**, 30, 14916-25	4	24
101	Evolutionary optimization of a nonbiological ATP binding protein for improved folding stability. *Chemistry and Biology*, **2004**, 11, 865-74		23
100	Synthesis and nonenzymatic template-directed polymerization of 2'-amino-2'-deoxythreose nucleotides. *Journal of the American Chemical Society*, **2014**, 136, 2033-9	16.4	22

99	Shrink-wrap vesicles. *Langmuir*, **2005**, 21, 12124-9	4	22
98	Unusual Base-Pairing Interactions in Monomer-Template Complexes. *ACS Central Science*, **2016**, 2, 916-926	6.8	21
97	Generation of functional RNAs from inactive oligonucleotide complexes by non-enzymatic primer extension. *Journal of the American Chemical Society*, **2015**, 137, 483-9	16.4	21
96	Enzymatic primer-extension with glycerol-nucleoside triphosphates on DNA templates. *PLoS ONE*, **2009**, 4, e4949	3.7	21
95	Uncovering the thermodynamics of monomer binding for RNA replication. *Journal of the American Chemical Society*, **2015**, 137, 6373-82	16.4	20
94	In-vitro-Selektion spezifisch ligandenbindender Nucleins□ren. *Angewandte Chemie*, **1992**, 104, 1001-1011	3.6	20
93	Yeast vectors with negative selection. *Methods in Enzymology*, **1983**, 101, 278-90	1.7	20
92	The Mechanism of Nonenzymatic Template Copying with Imidazole-Activated Nucleotides. *Angewandte Chemie - International Edition*, **2019**, 58, 10812-10819	16.4	19
91	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	11.5	19
90	Crystallographic observation of nonenzymatic RNA primer extension. *ELife*, **2018**, 7,	8.9	19
89	Nonenzymatic Template-Directed Synthesis of Mixed-Sequence 3'-NP-DNA up to 25 Nucleotides Long Inside Model Protocells. *Journal of the American Chemical Society*, **2019**, 141, 10481-10488	16.4	18
88	Solvated-electron production using cyanocuprates is compatible with the UV-environment on a Hadean-Archaean Earth. *Chemical Communications*, **2018**, 54, 1121-1124	5.8	17
87	Downstream Oligonucleotides Strongly Enhance the Affinity of GMP to RNA Primer-Template Complexes. *Journal of the American Chemical Society*, **2017**, 139, 571-574	16.4	16
86	Core-Shell Modeling of Light Scattering by Vesicles: Effect of Size, Contents, and Lamellarity. *Biophysical Journal*, **2019**, 116, 659-669	2.9	16
85	Bidirectional Direct Sequencing of Noncanonical RNA by Two-Dimensional Analysis of Mass Chromatograms. *Journal of the American Chemical Society*, **2015**, 137, 14430-8	16.4	16
84	Bulk Self-Assembly of Giant, Unilamellar Vesicles. *ACS Nano*, **2020**, 14, 14627-14634	16.7	16
83	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	16.4	16
82	A Mechanistic Explanation for the Regioselectivity of Nonenzymatic RNA Primer Extension. *Journal of the American Chemical Society*, **2017**, 139, 16741-16747	16.4	16

81	Suppression of mutations in the core of the Tetrahymena ribozyme by spermidine, ethanol and by substrate stabilization. *Nucleic Acids Research*, **1994**, 22, 5326-31	20.1	16
80	Non-enzymatic primer extension with strand displacement. *ELife*, **2019**, 8,	8.9	16
79	Structural insights into the evolution of a non-biological protein: importance of surface residues in protein fold optimization. *PLoS ONE*, **2007**, 2, e467	3.7	15
78	Nucleic acid crystallization and X-ray crystallography facilitated by single selenium atom. *Frontiers of Chemical Science and Engineering*, **2016**, 10, 196-202	4.5	15
77	Using Imaging Flow Cytometry to Quantify and Optimize Giant Vesicle Production by Water-in-oil Emulsion Transfer Methods. *Langmuir*, **2019**, 35, 2375-2382	4	15
76	Exploding vesicles. *Journal of Systems Chemistry*, **2011**, 2,		14
75	Structure and evolutionary analysis of a non-biological ATP-binding protein. *Journal of Molecular Biology*, **2007**, 371, 501-13	6.5	14
74	Experimental and Computational Evidence for a Loose Transition State in Phosphoroimidazolide Hydrolysis. *Journal of the American Chemical Society*, **2016**, 138, 3986-9	16.4	13
73	UV photostability of three 2-aminoazoles with key roles in prebiotic chemistry on the early earth. *Chemical Communications*, **2019**, 55, 10388-10391	5.8	13
72	Optimal codon choice can improve the efficiency and fidelity of N-methyl amino acid incorporation into peptides by in-vitro translation. *Angewandte Chemie - International Edition*, **2011**, 50, 3164-7	16.4	13
71	Selection of cyclic peptide aptamers to HCV IRES RNA using mRNA display. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 15293-8	11.5	13
70	Template-Directed Catalysis of a Multistep Reaction Pathway for Nonenzymatic RNA Primer Extension. *Biochemistry*, **2019**, 58, 755-762	3.2	13
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