

Jack W Szostak

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Freeze-thaw cycles enable a prebiotically plausible and continuous pathway from nucleotide activation to nonenzymatic RNA copying.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022 , 119, e2116429119	11.5	1
259	Structural interpretation of the effects of threo-nucleotides on nonenzymatic template-directed polymerization. <i>Nucleic Acids Research</i> , 2021 , 49, 646-656	20.1	5
258	Competition between bridged dinucleotides and activated mononucleotides determines the error frequency of nonenzymatic RNA primer extension. <i>Nucleic Acids Research</i> , 2021 , 49, 3681-3691	20.1	3
257	Ribose Alters the Photochemical Properties of the Nucleobase in Thionated Nucleosides. <i>Journal of Physical Chemistry Letters</i> , 2021 , 12, 6707-6713	6.4	1
256	The virtual circular genome model for primordial RNA replication. <i>Rna</i> , 2021 , 27, 1-11	5.8	6
255	A Potential Role for Aminoacylation in Primordial RNA Copying Chemistry. <i>Biochemistry</i> , 2021 , 60, 477-488	16.4	2
254	In search of the RNA world on Mars. <i>Geobiology</i> , 2021 , 19, 307-321	4.3	4
253	The Emergence of RNA from the Heterogeneous Products of Prebiotic Nucleotide Synthesis. <i>Journal of the American Chemical Society</i> , 2021 , 143, 3267-3279	16.4	4
252	Structure-Activity Relationships in Nonenzymatic Template-Directed RNA Synthesis. <i>Angewandte Chemie</i> , 2021 , 133, 23107	3.6	0
251	Structure-Activity Relationships in Nonenzymatic Template-Directed RNA Synthesis. <i>Angewandte Chemie - International Edition</i> , 2021 , 60, 22925-22932	16.4	1
250	Shielding from UV Photodamage: Implications for Surficial Origins of Life Chemistry on the Early Earth. <i>ACS Earth and Space Chemistry</i> , 2021 , 5, 239-246	3.2	3
249	Kinetic explanations for the sequence biases observed in the nonenzymatic copying of RNA templates. <i>Nucleic Acids Research</i> , 2021 ,	20.1	3
248	Deep sequencing of non-enzymatic RNA primer extension. <i>Nucleic Acids Research</i> , 2020 , 48, e70	20.1	10
247	Template-Directed Copying of RNA by Non-enzymatic Ligation. <i>Angewandte Chemie</i> , 2020 , 132, 15812-15817	16.4	3
246	Template-Directed Copying of RNA by Non-enzymatic Ligation. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 15682-15687	16.4	10
245	In vitro selection of ribozyme ligases that use prebiotically plausible 2-aminoimidazole-activated substrates. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 5741-5748	11.5	11
244	Bulk Self-Assembly of Giant, Unilamellar Vesicles. <i>ACS Nano</i> , 2020 , 14, 14627-14634	16.7	16

243	Synthesis of phosphoramidate-linked DNA by a modified DNA polymerase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 7276-7283	11.5	4
242	Nonenzymatic RNA-templated Synthesis of N3'->P5' Phosphoramidate DNA. <i>Bio-protocol</i> , 2020 , 10, e37349	16.4	25
241	A Model for the Emergence of RNA from a Prebiotically Plausible Mixture of Ribonucleotides, Arabinonucleotides, and 2'-Deoxynucleotides. <i>Journal of the American Chemical Society</i> , 2020 , 142, 2317-2326	16.4	25
240	Large Phenotypic Enhancement of Structured Random RNA Pools. <i>Journal of the American Chemical Society</i> , 2020 , 142, 1941-1951	16.4	2
239	Solid-Phase Synthesis of Sequence-Defined Informational Oligomers. <i>Journal of Organic Chemistry</i> , 2020 , 85, 13929-13938	4.2	1
238	S-phase Enriched Non-coding RNAs Regulate Gene Expression and Cell Cycle Progression. <i>Cell Reports</i> , 2020 , 31, 107629	10.6	6
237	Potentially Prebiotic Activation Chemistry Compatible with Nonenzymatic RNA Copying. <i>Journal of the American Chemical Society</i> , 2020 , 142, 14810-14813	16.4	5
236	Assembly of a Ribozyme Ligase from Short Oligomers by Nonenzymatic Ligation. <i>Journal of the American Chemical Society</i> , 2020 , 142, 15961-15965	16.4	5
235	Ultraviolet-Driven Deamination of Cytidine Ribonucleotides Under Planetary Conditions. <i>Astrobiology</i> , 2020 , 20, 878-888	3.7	3
234	DNA polymerase activity on synthetic N3'->P5' phosphoramidate DNA templates. <i>Nucleic Acids Research</i> , 2019 , 47, 8941-8949	20.1	5
233	Core-Shell Modeling of Light Scattering by Vesicles: Effect of Size, Contents, and Lamellarity. <i>Biophysical Journal</i> , 2019 , 116, 659-669	2.9	16
232	Nonenzymatic Template-Directed Synthesis of Mixed-Sequence 3'-NP-DNA up to 25 Nucleotides Long Inside Model Protocells. <i>Journal of the American Chemical Society</i> , 2019 , 141, 10481-10488	16.4	18
231	The Mechanism of Nonenzymatic Template Copying with Imidazole-Activated Nucleotides. <i>Angewandte Chemie</i> , 2019 , 131, 10926-10933	3.6	10
230	The Mechanism of Nonenzymatic Template Copying with Imidazole-Activated Nucleotides. <i>Angewandte Chemie - International Edition</i> , 2019 , 58, 10812-10819	16.4	19
229	Transfer of Sequence Information and Replication of Diimine Duplexes. <i>Journal of Organic Chemistry</i> , 2019 , 84, 3754-3761	4.2	10
228	UV photostability of three 2-aminoazoles with key roles in prebiotic chemistry on the early earth. <i>Chemical Communications</i> , 2019 , 55, 10388-10391	5.8	13
227	Template-Directed Nonenzymatic Primer Extension Using 2-Methylimidazole-Activated Morpholino Derivatives of Guanosine and Cytidine. <i>Journal of the American Chemical Society</i> , 2019 , 141, 12159-12166	16.4	4
226	Prebiotically Plausible "Patching" of RNA Backbone Cleavage through a 3'-5' Pyrophosphate Linkage. <i>Journal of the American Chemical Society</i> , 2019 , 141, 18104-18112	16.4	10

225	Non-enzymatic primer extension with strand displacement. <i>ELife</i> , 2019 , 8,	8.9	16
224	Lipid constituents of model protocell membranes. <i>Emerging Topics in Life Sciences</i> , 2019 , 3, 537-542	3.5	9
223	Template-Directed Catalysis of a Multistep Reaction Pathway for Nonenzymatic RNA Primer Extension. <i>Biochemistry</i> , 2019 , 58, 755-762	3.2	13
222	Using Imaging Flow Cytometry to Quantify and Optimize Giant Vesicle Production by Water-in-oil Emulsion Transfer Methods. <i>Langmuir</i> , 2019 , 35, 2375-2382	4	15
221	Preparation, Purification, and Use of Fatty Acid-containing Liposomes. <i>Journal of Visualized Experiments</i> , 2018 ,	1.6	7
220	Fatty Acid/Phospholipid Blended Membranes: A Potential Intermediate State in Protocellular Evolution. <i>Small</i> , 2018 , 14, e1704077	11	45
219	Structural Rationale for the Enhanced Catalysis of Nonenzymatic RNA Primer Extension by a Downstream Oligonucleotide. <i>Journal of the American Chemical Society</i> , 2018 , 140, 2829-2840	16.4	16
218	Synthesis of a Nonhydrolyzable Nucleotide Phosphoroimidazolidine Analogue That Catalyzes Nonenzymatic RNA Primer Extension. <i>Journal of the American Chemical Society</i> , 2018 , 140, 783-792	16.4	6
217	Solvated-electron production using cyanocuprates is compatible with the UV-environment on a Hadean-Archaeon Earth. <i>Chemical Communications</i> , 2018 , 54, 1121-1124	5.8	17
216	Copying of Mixed-Sequence RNA Templates inside Model Protocells. <i>Journal of the American Chemical Society</i> , 2018 , 140, 5171-5178	16.4	52
215	A Fluorescent G-Quadruplex Sensor for Chemical RNA Copying. <i>Angewandte Chemie</i> , 2018 , 130, 9992-9996	16.4	6
214	How Did Life Begin?. <i>Nature</i> , 2018 , 557, S13-S15	50.4	3
213	Crystallographic observation of nonenzymatic RNA primer extension. <i>ELife</i> , 2018 , 7,	8.9	19
212	Inosine, but none of the 8-oxo-purines, is a plausible component of a primordial version of RNA. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 13318-13323	11.5	34
211	Catalysis of Template-Directed Nonenzymatic RNA Copying by Iron(II). <i>Journal of the American Chemical Society</i> , 2018 , 140, 15016-15021	16.4	13
210	Protocells and RNA Self-Replication. <i>Cold Spring Harbor Perspectives in Biology</i> , 2018 , 10,	10.2	104
209	Mettl1/Wdr4-Mediated mG tRNA Methylome Is Required for Normal mRNA Translation and Embryonic Stem Cell Self-Renewal and Differentiation. <i>Molecular Cell</i> , 2018 , 71, 244-255.e5	17.6	124
208	A Fluorescent G-Quadruplex Sensor for Chemical RNA Copying. <i>Angewandte Chemie - International Edition</i> , 2018 , 57, 9844-9848	16.4	9

207	Enhanced Nonenzymatic RNA Copying with 2-Aminoimidazole Activated Nucleotides. <i>Journal of the American Chemical Society</i> , 2017 , 139, 1810-1813	16.4	100
206	Downstream Oligonucleotides Strongly Enhance the Affinity of GMP to RNA Primer-Template Complexes. <i>Journal of the American Chemical Society</i> , 2017 , 139, 571-574	16.4	16
205	The Narrow Road to the Deep Past: In Search of the Chemistry of the Origin of Life. <i>Angewandte Chemie - International Edition</i> , 2017 , 56, 11037-11043	16.4	85
204	Der schmale Pfad tief in die Vergangenheit: auf der Suche nach der Chemie der Anfänge des Lebens. <i>Angewandte Chemie</i> , 2017 , 129, 11182-11189	3.6	25
203	Divergent prebiotic synthesis of pyrimidine and 8-oxo-purine ribonucleotides. <i>Nature Communications</i> , 2017 , 8, 15270	17.4	63
202	Common and Potentially Prebiotic Origin for Precursors of Nucleotide Synthesis and Activation. <i>Journal of the American Chemical Society</i> , 2017 , 139, 8780-8783	16.4	62
201	Comparative analysis of LIN28-RNA binding sites identified at single nucleotide resolution. <i>RNA Biology</i> , 2017 , 14, 1756-1765	4.8	6
200	A Kinetic Model of Nonenzymatic RNA Polymerization by Cytidine-5'-phosphoro-2-aminoimidazolide. <i>Biochemistry</i> , 2017 , 56, 5739-5747	3.2	32
199	Not just Salk. <i>Science</i> , 2017 , 357, 1105-1106	33.3	3
198	Retraction: Oligoarginine peptides slow strand annealing and assist non-enzymatic RNA replication. <i>Nature Chemistry</i> , 2017 , 9, 1286	17.6	4
197	A Mechanistic Explanation for the Regioselectivity of Nonenzymatic RNA Primer Extension. <i>Journal of the American Chemical Society</i> , 2017 , 139, 16741-16747	16.4	16
196	The Origin of Life on Earth and the Design of Alternative Life Forms. <i>Molecular Frontiers Journal</i> , 2017 , 01, 121-131	0.9	7
195	UV-light-driven prebiotic synthesis of iron-sulfur clusters. <i>Nature Chemistry</i> , 2017 , 9, 1229-1234	17.6	72
194	Insight into the mechanism of nonenzymatic RNA primer extension from the structure of an RNA-GpppG complex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 7659-7664	11.5	19
193	A Highly Reactive Imidazolium-Bridged Dinucleotide Intermediate in Nonenzymatic RNA Primer Extension. <i>Journal of the American Chemical Society</i> , 2016 , 138, 11996-2002	16.4	61
192	N-Carboxyanhydride-Mediated Fatty Acylation of Amino Acids and Peptides for Functionalization of protocell membranes. <i>Journal of the American Chemical Society</i> , 2016 , 138, 16669-16676	16.4	30
191	Collaboration between primitive cell membranes and soluble catalysts. <i>Nature Communications</i> , 2016 , 7, 11041	17.4	46
190	Unusual Base-Pairing Interactions in Monomer-Template Complexes. <i>ACS Central Science</i> , 2016 , 2, 916-926	26.8	21

189	Oligoarginine peptides slow strand annealing and assist non-enzymatic RNA replication. <i>Nature Chemistry</i> , 2016 , 8, 915-21	17.6	36
188	Experimental and Computational Evidence for a Loose Transition State in Phosphoroimidazolid Hydrolysis. <i>Journal of the American Chemical Society</i> , 2016 , 138, 3986-9	16.4	13
187	Synthesis of activated 3'-amino-3'-deoxy-2-thio-thymidine, a superior substrate for the nonenzymatic copying of nucleic acid templates. <i>Chemical Communications</i> , 2016 , 52, 3684-6	5.8	11
186	A simple physical mechanism enables homeostasis in primitive cells. <i>Nature Chemistry</i> , 2016 , 8, 448-53	17.6	66
185	Nonenzymatic copying of RNA templates containing all four letters is catalyzed by activated oligonucleotides. <i>ELife</i> , 2016 , 5,	8.9	77
184	Nucleic acid crystallization and X-ray crystallography facilitated by single selenium atom. <i>Frontiers of Chemical Science and Engineering</i> , 2016 , 10, 196-202	4.5	15
183	Thiolated uridine substrates and templates improve the rate and fidelity of ribozyme-catalyzed RNA copying. <i>Chemical Communications</i> , 2016 , 52, 6529-32	5.8	3
182	Effect of terminal 3'-hydroxymethyl modification of an RNA primer on nonenzymatic primer extension. <i>Chemical Communications</i> , 2016 , 52, 11905-11907	5.8	4
181	On the origin of life. <i>Medicina</i> , 2016 , 76, 199-203	1	4
180	Pinpointing RNA-Protein Cross-Links with Site-Specific Stable Isotope-Labeled Oligonucleotides. <i>Journal of the American Chemical Society</i> , 2015 , 137, 15378-81	16.4	12
179	Bidirectional Direct Sequencing of Noncanonical RNA by Two-Dimensional Analysis of Mass Chromatograms. <i>Journal of the American Chemical Society</i> , 2015 , 137, 14430-8	16.4	16
178	Electrostatic Localization of RNA to Protocell Membranes by Cationic Hydrophobic Peptides. <i>Angewandte Chemie</i> , 2015 , 127, 11901-11905	3.6	10
177	Electrostatic Localization of RNA to Protocell Membranes by Cationic Hydrophobic Peptides. <i>Angewandte Chemie - International Edition</i> , 2015 , 54, 11735-9	16.4	41
176	Uncovering the thermodynamics of monomer binding for RNA replication. <i>Journal of the American Chemical Society</i> , 2015 , 137, 6373-82	16.4	20
175	Construction of a liposome dialyzer for the preparation of high-value, small-volume liposome formulations. <i>Nature Protocols</i> , 2015 , 10, 927-38	18.8	6
174	Thermodynamic insights into 2-thiouridine-enhanced RNA hybridization. <i>Nucleic Acids Research</i> , 2015 , 43, 7675-87	20.1	39
173	Generation of functional RNAs from inactive oligonucleotide complexes by non-enzymatic primer extension. <i>Journal of the American Chemical Society</i> , 2015 , 137, 483-9	16.4	21
172	Replacing uridine with 2-thiouridine enhances the rate and fidelity of nonenzymatic RNA primer extension. <i>Journal of the American Chemical Society</i> , 2015 , 137, 2769-75	16.4	55

171	Rapid RNA exchange in aqueous two-phase system and coacervate droplets. <i>Origins of Life and Evolution of Biospheres</i> , 2014 , 44, 1-12	1.5	76
170	Controlled growth of filamentous fatty acid vesicles under flow. <i>Langmuir</i> , 2014 , 30, 14916-25	4	24
169	The free energy landscape of pseudorotation in 3'-5' and 2'-5' linked nucleic acids. <i>Journal of the American Chemical Society</i> , 2014 , 136, 2858-65	16.4	28
168	Synthesis and nonenzymatic template-directed polymerization of 2'-amino-2'-deoxythreose nucleotides. <i>Journal of the American Chemical Society</i> , 2014 , 136, 2033-9	16.4	22
167	Crystal structure studies of RNA duplexes containing s(2)U:A and s(2)U:U base pairs. <i>Journal of the American Chemical Society</i> , 2014 , 136, 13916-24	16.4	34
166	Progress toward synthetic cells. <i>Annual Review of Biochemistry</i> , 2014 , 83, 615-40	29.1	207
165	mRNA display: from basic principles to macrocycle drug discovery. <i>Drug Discovery Today</i> , 2014 , 19, 388-98	9.8	135
164	Chain-length heterogeneity allows for the assembly of fatty acid vesicles in dilute solutions. <i>Biophysical Journal</i> , 2014 , 107, 1582-90	2.9	54
163	Structural insights into the effects of 2'-5' linkages on the RNA duplex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 3050-5	11.5	32
162	Nonenzymatic template-directed RNA synthesis inside model protocells. <i>Science</i> , 2013 , 342, 1098-100	33.3	213
161	Fast and accurate nonenzymatic copying of an RNA-like synthetic genetic polymer. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 17732-7	11.5	58
160	Functional RNAs exhibit tolerance for non-heritable 2'-5' versus 3'-5' backbone heterogeneity. <i>Nature Chemistry</i> , 2013 , 5, 390-4	17.6	69
159	Competition between model protocells driven by an encapsulated catalyst. <i>Nature Chemistry</i> , 2013 , 5, 495-501	17.6	183
158	Preparation of fatty acid micelles. <i>Methods in Enzymology</i> , 2013 , 533, 283-8	1.7	6
157	Vesicle extrusion through polycarbonate track-etched membranes using a hand-held mini-extruder. <i>Methods in Enzymology</i> , 2013 , 533, 275-82	1.7	9
156	Preparation of fatty acid or phospholipid vesicles by thin-film rehydration. <i>Methods in Enzymology</i> , 2013 , 533, 267-74	1.7	7
155	Synthesis of N3'-P5'-linked phosphoramidate DNA by nonenzymatic template-directed primer extension. <i>Journal of the American Chemical Society</i> , 2013 , 135, 924-32	16.4	41
154	In vitro selection of highly modified cyclic peptides that act as tight binding inhibitors. <i>Journal of the American Chemical Society</i> , 2012 , 134, 10469-77	16.4	169

153	In vitro selection of functional lantipeptides. <i>Journal of the American Chemical Society</i> , 2012 , 134, 8038-41	16.4	50
152	Activated ribonucleotides undergo a sugar pucker switch upon binding to a single-stranded RNA template. <i>Journal of the American Chemical Society</i> , 2012 , 134, 3691-4	16.4	30
151	Concentration-driven growth of model protocell membranes. <i>Journal of the American Chemical Society</i> , 2012 , 134, 20812-9	16.4	102
150	Multicomponent assembly of proposed DNA precursors in water. <i>Journal of the American Chemical Society</i> , 2012 , 134, 13889-95	16.4	50
149	Attempts to define life do not help to understand the origin of life. <i>Journal of Biomolecular Structure and Dynamics</i> , 2012 , 29, 599-600	3.6	43
148	The eightfold path to non-enzymatic RNA replication. <i>Journal of Systems Chemistry</i> , 2012 , 3,		203
147	Photochemically driven redox chemistry induces protocell membrane pearling and division. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 9828-32	11.5	94
146	Physical effects underlying the transition from primitive to modern cell membranes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 5249-54	11.5	183
145	Exploding vesicles. <i>Journal of Systems Chemistry</i> , 2011 , 2,		14
144	Optimal Codon Choice Can Improve the Efficiency and Fidelity of N-Methyl Amino Acid Incorporation into Peptides by In-Vitro Translation. <i>Angewandte Chemie</i> , 2011 , 123, 3222-3225	3.6	0
143	Optimal codon choice can improve the efficiency and fidelity of N-methyl amino acid incorporation into peptides by in-vitro translation. <i>Angewandte Chemie - International Edition</i> , 2011 , 50, 3164-7	16.4	13
142	Artificial lantipeptides from in vitro translations. <i>Chemical Communications</i> , 2011 , 47, 6141-3	5.8	32
141	An optimal degree of physical and chemical heterogeneity for the origin of life?. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2011 , 366, 2894-901	5.8	82
140	Evolution of functional nucleic acids in the presence of nonheritable backbone heterogeneity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 13492-7	11.5	44
139	The Origins of Nucleotides. <i>Synlett</i> , 2011 , 2011, 1956-1964	2.2	48
138	The origins of cellular life. <i>Cold Spring Harbor Perspectives in Biology</i> , 2010 , 2, a002212	10.2	140
137	Expanding roles for diverse physical phenomena during the origin of life. <i>Annual Review of Biophysics</i> , 2010 , 39, 245-63	21.1	112
136	Chemoselective multicomponent one-pot assembly of purine precursors in water. <i>Journal of the American Chemical Society</i> , 2010 , 132, 16677-88	16.4	123

135	Effect of stalling after mismatches on the error catastrophe in nonenzymatic nucleic acid replication. <i>Journal of the American Chemical Society</i> , 2010 , 132, 5880-5	16.4	87
134	DNA-Enden: Nur ein Anfang (Nobel-Aufsatz). <i>Angewandte Chemie</i> , 2010 , 122, 7544-7563	3.6	1
133	DNA ends: just the beginning (Nobel lecture). <i>Angewandte Chemie - International Edition</i> , 2010 , 49, 7386-404	16.4	12
132	Preparation of large monodisperse vesicles. <i>PLoS ONE</i> , 2009 , 4, e5009	3.7	60
131	Enzymatic primer-extension with glycerol-nucleoside triphosphates on DNA templates. <i>PLoS ONE</i> , 2009 , 4, e4949	3.7	21
130	N2'-->p3' phosphoramidate glycerol nucleic acid as a potential alternative genetic system. <i>Journal of the American Chemical Society</i> , 2009 , 131, 2119-21	16.4	54
129	Ray Wu, as remembered by a former student. <i>Science in China Series C: Life Sciences</i> , 2009 , 52, 108-10		5
128	Origin of life on earth. <i>Scientific American</i> , 2009 , 301, 54-61	0.5	41
127	Efficient and rapid template-directed nucleic acid copying using 2'-amino-2',3'-dideoxyribonucleoside-5'-phosphorimidazolidine monomers. <i>Journal of the American Chemical Society</i> , 2009 , 131, 14560-70	16.4	88
126	Formation of protocell-like vesicles in a thermal diffusion column. <i>Journal of the American Chemical Society</i> , 2009 , 131, 9628-9	16.4	97
125	Conformational analysis of DNA repair intermediates by time-resolved fluorescence spectroscopy. <i>Journal of Physical Chemistry A</i> , 2009 , 113, 9585-7	2.8	8
124	Single-molecule imaging of an in vitro-evolved RNA aptamer reveals homogeneous ligand binding kinetics. <i>Journal of the American Chemical Society</i> , 2009 , 131, 9866-7	16.4	39
123	Coupled growth and division of model protocell membranes. <i>Journal of the American Chemical Society</i> , 2009 , 131, 5705-13	16.4	347
122	Template-directed synthesis of a genetic polymer in a model protocell. <i>Nature</i> , 2008 , 454, 122-5	50.4	518
121	Ribosomal synthesis of N-methyl peptides. <i>Journal of the American Chemical Society</i> , 2008 , 130, 6131-6	16.4	85
120	Selection of cyclic peptide aptamers to HCV IRES RNA using mRNA display. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 15293-8	11.5	13
119	Thermostability of model protocell membranes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 13351-5	11.5	142
118	Metal-ion catalyzed polymerization in the eutectic phase in water-ice: a possible approach to template-directed RNA polymerization. <i>Journal of Inorganic Biochemistry</i> , 2008 , 102, 1104-11	4.2	36

117	Selection of cyclic peptide aptamers to HCV IRES RNA using mRNA display. <i>FASEB Journal</i> , 2008 , 22, 338-338	2	
116	2',3'-Dideoxy-3'-thionucleoside triphosphates: syntheses and polymerase substrate activities. <i>Organic Letters</i> , 2007 , 9, 1161-3	6.2	11
115	Structural insights into the evolution of a non-biological protein: importance of surface residues in protein fold optimization. <i>PLoS ONE</i> , 2007 , 2, e467	3.7	15
114	Selection and evolution of enzymes from a partially randomized non-catalytic scaffold. <i>Nature</i> , 2007 , 448, 828-31	50.4	182
113	Mineral surface directed membrane assembly. <i>Origins of Life and Evolution of Biospheres</i> , 2007 , 37, 67-82	1.5	84
112	Enzymatic synthesis of DNA on glycerol nucleic acid templates without stable duplex formation between product and template. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 14598-603	11.5	67
111	Structure and evolutionary analysis of a non-biological ATP-binding protein. <i>Journal of Molecular Biology</i> , 2007 , 371, 501-13	6.5	14
110	An expanded set of amino acid analogs for the ribosomal translation of unnatural peptides. <i>PLoS ONE</i> , 2007 , 2, e972	3.7	134
109	Solution structure of an informationally complex high-affinity RNA aptamer to GTP. <i>Rna</i> , 2006 , 12, 567-79	3.8	58
108	A genomewide search for ribozymes reveals an HDV-like sequence in the human CPEB3 gene. <i>Science</i> , 2006 , 313, 1788-92	33.3	231
107	Enzymatic aminoacylation of tRNA with unnatural amino acids. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 4356-61	11.5	114
106	Ribosomal synthesis of dehydroalanine-containing peptides. <i>Journal of the American Chemical Society</i> , 2006 , 128, 7150-1	16.4	84
105	Glycerol nucleoside triphosphates: synthesis and polymerase substrate activities. <i>Organic Letters</i> , 2006 , 8, 5345-7	6.2	36
104	In Vitro Selection of Functional Oligonucleotides and the Origins of Biochemical Activity 2006 , 1-28		3
103	Telomeres and telomerase: the path from maize, Tetrahymena and yeast to human cancer and aging. <i>Nature Medicine</i> , 2006 , 12, 1133-8	50.5	663
102	Directed evolution of ATP binding proteins from a zinc finger domain by using mRNA display. <i>Chemistry and Biology</i> , 2006 , 13, 139-47		28
101	Aptamers selected for higher-affinity binding are not more specific for the target ligand. <i>Journal of the American Chemical Society</i> , 2006 , 128, 7929-37	16.4	98
100	High fidelity TNA synthesis by Terminator polymerase. <i>Nucleic Acids Research</i> , 2005 , 33, 5219-25	20.1	82

99	In vitro selection of RNA aptamers against a composite small molecule-protein surface. <i>Nucleic Acids Research</i> , 2005 , 33, 5602-10	20.1	10
98	Synthesis of alpha-L-threofuranosyl nucleoside triphosphates (tNTPs). <i>Organic Letters</i> , 2005 , 7, 1485-7	6.2	25
97	Kinetic analysis of an efficient DNA-dependent TNA polymerase. <i>Journal of the American Chemical Society</i> , 2005 , 127, 7427-34	16.4	80
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6	Prebiotically Plausible Patching of RNA Backbone Cleavage Through a 3'-5' Pyrophosphate Linkage		1
5	Non-enzymatic primer extension with strand displacement		1
4	Bacterial carotenoids suppress <i>Caenorhabditis elegans</i> surveillance and defense of translational dysfunction		2
3	Interpreting turbidity measurements for vesicle studies		1
2	Assembly of a functional ribozyme from short oligomers by enhanced non-enzymatic ligation		2
1	A model for the emergence of RNA from a prebiotically plausible mixture of ribonucleotides, arabinonucleotides and 2'-deoxynucleotides		3