

Andrew D Ellington

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299
papers

26,597
citations

74
h-index

159
g-index

326
ext. papers

29,771
ext. citations

11.5
avg, IF

7.31
L-index

#	Paper	IF	Citations
299	In vitro selection of RNA molecules that bind specific ligands. <i>Nature</i> , 1990 , 346, 818-22	50.4	7326
298	Aptamers as therapeutics. <i>Nature Reviews Drug Discovery</i> , 2010 , 9, 537-50	64.1	1428
297	Selection in vitro of single-stranded DNA molecules that fold into specific ligand-binding structures. <i>Nature</i> , 1992 , 355, 850-2	50.4	643
296	Applications of aptamers as sensors. <i>Annual Review of Analytical Chemistry</i> , 2009 , 2, 241-64	12.5	633
295	Aptamer beacons for the direct detection of proteins. <i>Analytical Biochemistry</i> , 2001 , 294, 126-31	3.1	525
294	Synthetic biology: engineering Escherichia coli to see light. <i>Nature</i> , 2005 , 438, 441-2	50.4	467
293	Nucleic Acid Selection and the Challenge of Combinatorial Chemistry. <i>Chemical Reviews</i> , 1997 , 97, 349-378	78.1	453
292	A synthetic genetic edge detection program. <i>Cell</i> , 2009 , 137, 1272-81	56.2	372
291	Rational, modular adaptation of enzyme-free DNA circuits to multiple detection methods. <i>Nucleic Acids Research</i> , 2011 , 39, e110	20.1	363
290	Adapting selected nucleic acid ligands (aptamers) to biosensors. <i>Analytical Chemistry</i> , 1998 , 70, 3419-25	7.8	320
289	Automated selection of anti-protein aptamers. <i>Bioorganic and Medicinal Chemistry</i> , 2001 , 9, 2525-31	3.4	318
288	Aptamer therapeutics advance. <i>Current Opinion in Chemical Biology</i> , 2006 , 10, 282-9	9.7	314
287	Micromechanical detection of proteins using aptamer-based receptor molecules. <i>Analytical Chemistry</i> , 2004 , 76, 3194-8	7.8	276
286	Aptamer-based sensor arrays for the detection and quantitation of proteins. <i>Analytical Chemistry</i> , 2004 , 76, 4066-75	7.8	274
285	In-depth determination and analysis of the human paired heavy- and light-chain antibody repertoire. <i>Nature Medicine</i> , 2015 , 21, 86-91	50.5	259
284	Designed Signaling Aptamers that Transduce Molecular Recognition to Changes in Fluorescence Intensity. <i>Journal of the American Chemical Society</i> , 2000 , 122, 2469-2473	16.4	256
283	In vitro selection of signaling aptamers. <i>Nature Biotechnology</i> , 2000 , 18, 1293-7	44.5	249

282	Aptamer:toxin conjugates that specifically target prostate tumor cells. <i>Cancer Research</i> , 2006 , 66, 5989-92.1	2.1	240
281	Quantum-dot aptamer beacons for the detection of proteins. <i>ChemBioChem</i> , 2005 , 6, 2163-6	3.8	231
280	In vitro selection of an allosteric ribozyme that transduces analytes to amplicons. <i>Nature Biotechnology</i> , 1999 , 17, 62-6	44.5	226
279	Diagnostic applications of nucleic acid circuits. <i>Accounts of Chemical Research</i> , 2014 , 47, 1825-35	24.3	225
278	Disulfide-Intact and -Reduced Lysozyme in the Gas Phase: Conformations and Pathways of Folding and Unfolding. <i>Journal of Physical Chemistry B</i> , 1997 , 101, 3891-3900	3.4	216
277	Real-time detection of isothermal amplification reactions with thermostable catalytic hairpin assembly. <i>Journal of the American Chemical Society</i> , 2013 , 135, 7430-3	16.4	215
276	Hachimoji DNA and RNA: A genetic system with eight building blocks. <i>Science</i> , 2019 , 363, 884-887	33.3	193
275	Probing spatial organization of DNA strands using enzyme-free hairpin assembly circuits. <i>Journal of the American Chemical Society</i> , 2012 , 134, 13918-21	16.4	189
274	Molecular-level analysis of the serum antibody repertoire in young adults before and after seasonal influenza vaccination. <i>Nature Medicine</i> , 2016 , 22, 1456-1464	50.5	186
273	Stacking nonenzymatic circuits for high signal gain. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 5386-91	11.5	182
272	Using a deoxyribozyme ligase and rolling circle amplification to detect a non-nucleic acid analyte, ATP. <i>Journal of the American Chemical Society</i> , 2005 , 127, 2022-3	16.4	174
271	Synthetic DNA Synthesis and Assembly: Putting the Synthetic in Synthetic Biology. <i>Cold Spring Harbor Perspectives in Biology</i> , 2017 , 9,	10.2	166
270	Real-time rolling circle amplification for protein detection. <i>Analytical Chemistry</i> , 2007 , 79, 3320-9	7.8	166
269	In vitro evolution of beta-glucuronidase into a beta-galactosidase proceeds through non-specific intermediates. <i>Journal of Molecular Biology</i> , 2001 , 305, 331-9	6.5	153
268	Optimization of aptamer microarray technology for multiple protein targets. <i>Analytica Chimica Acta</i> , 2006 , 564, 82-90	6.6	150
267	Deep penetration of an alpha-helix into a widened RNA major groove in the HIV-1 rev peptide-RNA aptamer complex. <i>Nature Structural Biology</i> , 1996 , 3, 1026-33		146
266	Protein-dependent ribozymes report molecular interactions in real time. <i>Nature Biotechnology</i> , 2002 , 20, 717-22	44.5	144
265	Monitoring the growth of a bacteria culture by MALDI-MS of whole cells. <i>Analytical Chemistry</i> , 1999 , 71, 1990-6	7.8	143

264	Aptamer-targeted gold nanoparticles as molecular-specific contrast agents for reflectance imaging. <i>Bioconjugate Chemistry</i> , 2008 , 19, 1309-12	6.3	140
263	Ribozyme catalysis of metabolism in the RNA world. <i>Chemistry and Biodiversity</i> , 2007 , 4, 633-55	2.5	138
262	Evolution of a T7 RNA polymerase variant that transcribes 2FO-methyl RNA. <i>Nature Biotechnology</i> , 2004 , 22, 1155-60	44.5	137
261	Automated selection of aptamers against protein targets translated in vitro: from gene to aptamer. <i>Nucleic Acids Research</i> , 2002 , 30, e108	20.1	135
260	Phylogenetic and genetic evidence for base-triples in the catalytic domain of group I introns. <i>Nature</i> , 1990 , 347, 578-80	50.4	133
259	Inhibition of cell proliferation by an anti-EGFR aptamer. <i>PLoS ONE</i> , 2011 , 6, e20299	3.7	132
258	Labeling tumor cells with fluorescent nanocrystal-aptamer bioconjugates. <i>Biosensors and Bioelectronics</i> , 2006 , 21, 1859-66	11.8	131
257	Selective optimization of the Rev-binding element of HIV-1. <i>Nucleic Acids Research</i> , 1993 , 21, 5509-16	20.1	127
256	Mismatches improve the performance of strand-displacement nucleic Acid circuits. <i>Angewandte Chemie - International Edition</i> , 2014 , 53, 1845-8	16.4	120
255	Selection of fluorescent aptamer beacons that light up in the presence of zinc. <i>Analytical and Bioanalytical Chemistry</i> , 2008 , 390, 1067-75	4.4	120
254	In vitro genetic analysis of the Tetrahymena self-splicing intron. <i>Nature</i> , 1990 , 347, 406-8	50.4	120
253	Crystal structure of an RNA aptamer-protein complex at 2.8 Å resolution. <i>Nature Structural Biology</i> , 1998 , 5, 133-9		118
252	Large-scale sequence and structural comparisons of human naive and antigen-experienced antibody repertoires. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, E2636-45	11.5	118
251	Automated RNA selection. <i>Biotechnology Progress</i> , 1998 , 14, 845-50	2.8	117
250	Production and processing of aptamer microarrays. <i>Methods</i> , 2005 , 37, 4-15	4.6	112
249	Structure-based design of supercharged, highly thermoresistant antibodies. <i>Chemistry and Biology</i> , 2012 , 19, 449-55		108
248	AANT: the Amino Acid-Nucleotide Interaction Database. <i>Nucleic Acids Research</i> , 2004 , 32, D174-81	20.1	104
247	Ultra-high-throughput sequencing of the immune receptor repertoire from millions of lymphocytes. <i>Nature Protocols</i> , 2016 , 11, 429-42	18.8	103

246	Directed evolution of genetic parts and circuits by compartmentalized partnered replication. <i>Nature Biotechnology</i> , 2014 , 32, 97-101	44.5	103
245	Pattern transformation with DNA circuits. <i>Nature Chemistry</i> , 2013 , 5, 1000-5	17.6	102
244	DNA detection using origami paper analytical devices. <i>Analytical Chemistry</i> , 2013 , 85, 9713-20	7.8	102
243	Coupling Sensitive Nucleic Acid Amplification with Commercial Pregnancy Test Strips. <i>Angewandte Chemie - International Edition</i> , 2017 , 56, 992-996	16.4	98
242	Robust strand exchange reactions for the sequence-specific, real-time detection of nucleic acid amplicons. <i>Analytical Chemistry</i> , 2015 , 87, 3314-20	7.8	96
241	Real-time sequence-validated loop-mediated isothermal amplification assays for detection of Middle East respiratory syndrome coronavirus (MERS-CoV). <i>PLoS ONE</i> , 2015 , 10, e0123126	3.7	96
240	Design and optimization of effector-activated ribozyme ligases. <i>Nucleic Acids Research</i> , 2000 , 28, 1751-9	20.1	95
239	Arginine-rich motifs present multiple interfaces for specific binding by RNA. <i>Rna</i> , 2005 , 11, 1848-57	5.8	94
238	In vitro selection of RNA lectins: using combinatorial chemistry to interpret ribozyme evolution. <i>Chemistry and Biology</i> , 1995 , 2, 291-303		92
237	RNA selection. Aptamers achieve the desired recognition. <i>Current Biology</i> , 1994 , 4, 427-9	6.3	92
236	Synthetic evolutionary origin of a proofreading reverse transcriptase. <i>Science</i> , 2016 , 352, 1590-3	33.3	84
235	Functional RNA microarrays for high-throughput screening of antiprotein aptamers. <i>Analytical Biochemistry</i> , 2005 , 338, 113-23	3.1	83
234	A Simple, Cleated DNA Walker That Hangs on to Surfaces. <i>ACS Nano</i> , 2017 , 11, 8047-8054	16.7	82
233	Engineered symbionts activate honey bee immunity and limit pathogens. <i>Science</i> , 2020 , 367, 573-576	33.3	81
232	In vitro selection of nucleoprotein enzymes. <i>Nature Biotechnology</i> , 2001 , 19, 650-5	44.5	81
231	Functional interrogation and mining of natively paired human V:V antibody repertoires. <i>Nature Biotechnology</i> , 2018 , 36, 152-155	44.5	80
230	Technical and biological issues relevant to cell typing with aptamers. <i>Journal of Proteome Research</i> , 2009 , 8, 2438-48	5.6	79
229	Adapting enzyme-free DNA circuits to the detection of loop-mediated isothermal amplification reactions. <i>Analytical Chemistry</i> , 2012 , 84, 8371-7	7.8	78

228	In vitro selection of nucleic acids for diagnostic applications. <i>Reviews in Molecular Biotechnology</i> , 2000 , 74, 15-25		78
227	Gas-Phase DNA: Oligothymidine Ion Conformers. <i>Journal of the American Chemical Society</i> , 1997 , 119, 9051-9052	16.4	76
226	DNA circuits as amplifiers for the detection of nucleic acids on a paperfluidic platform. <i>Lab on A Chip</i> , 2012 , 12, 2951-8	7.2	74
225	Group I aptazymes as genetic regulatory switches. <i>BMC Biotechnology</i> , 2002 , 2, 21	3.5	74
224	In vitro selection of molecular beacons. <i>Nucleic Acids Research</i> , 2003 , 31, 5700-13	20.1	72
223	Directed evolution of the surface chemistry of the reporter enzyme beta-glucuronidase. <i>Nature Biotechnology</i> , 1999 , 17, 696-701	44.5	72
222	Simultaneous detection of diverse analytes with an aptazyme ligase array. <i>Analytical Biochemistry</i> , 2003 , 312, 106-12	3.1	70
221	Exponential growth by cross-catalytic cleavage of deoxyribozymogens. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 6416-21	11.5	69
220	Strand Displacement Probes Combined with Isothermal Nucleic Acid Amplification for Instrument-Free Detection from Complex Samples. <i>Analytical Chemistry</i> , 2018 , 90, 6580-6586	7.8	66
219	Generalized bacterial genome editing using mobile group II introns and Cre-lox. <i>Molecular Systems Biology</i> , 2013 , 9, 685	12.2	63
218	Massively Parallel Biophysical Analysis of CRISPR-Cas Complexes on Next Generation Sequencing Chips. <i>Cell</i> , 2017 , 170, 35-47.e13	56.2	62
217	Bioinformatic analysis of the contribution of primer sequences to aptamer structures. <i>Journal of Molecular Evolution</i> , 2008 , 67, 95-102	3.1	62
216	Design and application of cotranscriptional non-enzymatic RNA circuits and signal transducers. <i>Nucleic Acids Research</i> , 2014 , 42, e58	20.1	61
215	Selection and characterization of Escherichia coli variants capable of growth on an otherwise toxic tryptophan analogue. <i>Journal of Bacteriology</i> , 2001 , 183, 5414-25	3.5	61
214	Evolutionary origins and directed evolution of RNA. <i>International Journal of Biochemistry and Cell Biology</i> , 2009 , 41, 254-65	5.6	59
213	Effective design principles for leakless strand displacement systems. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, E12182-E12191	11.5	59
212	Selection and design of high-affinity RNA ligands for HIV-1 Rev. <i>Gene</i> , 1993 , 137, 19-24	3.8	55
211	A Sweet Spot for Molecular Diagnostics: Coupling Isothermal Amplification and Strand Exchange Circuits to Glucometers. <i>Scientific Reports</i> , 2015 , 5, 11039	4.9	54

210	Structural Characterization of Dihydrofolate Reductase Complexes by Top-Down Ultraviolet Photodissociation Mass Spectrometry. <i>Journal of the American Chemical Society</i> , 2015 , 137, 9128-35	16.4	54
209	Expanding the limits of the second genetic code with ribozymes. <i>Nature Communications</i> , 2019 , 10, 5097	17.4	54
208	Effect of Complementary Nucleobase Interactions on the Copolymer Composition of RAFT Copolymerizations.. <i>ACS Macro Letters</i> , 2013 , 2, 581-586	6.6	54
207	NMR mapping of the recombinant mouse major urinary protein I binding site occupied by the pheromone 2-sec-butyl-4,5-dihydrothiazole. <i>Biochemistry</i> , 1999 , 38, 9850-61	3.2	54
206	Automated acquisition of aptamer sequences. <i>Combinatorial Chemistry and High Throughput Screening</i> , 2002 , 5, 289-99	1.3	53
205	The limits of specificity: an experimental analysis with RNA aptamers to MS2 coat protein variants. <i>Molecular Diversity</i> , 1998 , 4, 75-89	3.1	52
204	Increasing the thermal stability of an oligomeric protein, beta-glucuronidase. <i>Journal of Molecular Biology</i> , 2002 , 315, 325-37	6.5	52
203	Mismatches Improve the Performance of Strand-Displacement Nucleic Acid Circuits. <i>Angewandte Chemie</i> , 2014 , 126, 1876-1879	3.6	50
202	Recursive genomewide recombination and sequencing reveals a key refinement step in the evolution of a metabolic innovation in Escherichia coli. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 2217-22	11.5	50
201	Selecting nucleic acids for biosensor applications. <i>Combinatorial Chemistry and High Throughput Screening</i> , 2002 , 5, 263-70	1.3	50
200	Alternative computational protocols for supercharging protein surfaces for reversible unfolding and retention of stability. <i>PLoS ONE</i> , 2013 , 8, e64363	3.7	50
199	Shaping up nucleic acid computation. <i>Current Opinion in Biotechnology</i> , 2010 , 21, 392-400	11.4	48
198	A three-dimensional model of the Rev-binding element of HIV-1 derived from analyses of aptamers. <i>Nature Structural and Molecular Biology</i> , 1994 , 1, 293-300	17.6	48
197	Fine-tuning citrate synthase flux potentiates and refines metabolic innovation in the Lenski evolution experiment. <i>ELife</i> , 2015 , 4,	8.9	48
196	Supercharging enables organized assembly of synthetic biomolecules. <i>Nature Chemistry</i> , 2019 , 11, 204-212	17.6	48
195	Genetic Engineering of Bee Gut Microbiome Bacteria with a Toolkit for Modular Assembly of Broad-Host-Range Plasmids. <i>ACS Synthetic Biology</i> , 2018 , 7, 1279-1290	5.7	46
194	Cofactor-Assisted Self-Cleavage in DNA Libraries with a 3'-Phosphoramidate Bond. <i>Angewandte Chemie International Edition in English</i> , 1997 , 36, 1321-1324		46
193	Direct selection of trans-acting ligase ribozymes by in vitro compartmentalization. <i>Rna</i> , 2005 , 11, 1555-63	3.8	45

192	RNA molecules that bind to and inhibit the active site of a tyrosine phosphatase. <i>Journal of Biological Chemistry</i> , 1998 , 273, 14309-14	5.4	45
191	Transcription yield of fully 2'-F-modified RNA can be increased by the addition of thermostabilizing mutations to T7 RNA polymerase mutants. <i>Nucleic Acids Research</i> , 2015 , 43, 7480-8	20.1	44
190	Synthetic RNA circuits. <i>Nature Chemical Biology</i> , 2007 , 3, 23-8	11.7	43
189	A Spinach molecular beacon triggered by strand displacement. <i>Rna</i> , 2014 , 20, 1183-94	5.8	42
188	Design principles for ligand-sensing, conformation-switching ribozymes. <i>PLoS Computational Biology</i> , 2009 , 5, e1000620	5	42
187	High resolution matrix-assisted laser desorption/ionization time-of-flight analysis of single-stranded DNA of 27 to 68 nucleotides in length. <i>Rapid Communications in Mass Spectrometry</i> , 1995 , 9, 1061-6	2.2	42
186	A proteomic survey of widespread protein aggregation in yeast. <i>Molecular BioSystems</i> , 2014 , 10, 851-861		40
185	Computational selection of nucleic acid biosensors via a slip structure model. <i>Biosensors and Bioelectronics</i> , 2007 , 22, 1939-47	11.8	40
184	Real-time PCR detection of protein analytes with conformation-switching aptamers. <i>Analytical Biochemistry</i> , 2008 , 380, 164-73	3.1	40
183	Ribozyme-mediated signal augmentation on a mass-sensitive biosensor. <i>Journal of the American Chemical Society</i> , 2006 , 128, 15936-7	16.4	40
182	Bacteriophages use an expanded genetic code on evolutionary paths to higher fitness. <i>Nature Chemical Biology</i> , 2014 , 10, 178-80	11.7	39
181	Surprising fidelity of template-directed chemical ligation of oligonucleotides. <i>Chemistry and Biology</i> , 1997 , 4, 595-605		39
180	Re-creating the RNA world. <i>Current Biology</i> , 1995 , 5, 1017-22	6.3	39
179	Phosphorothioated Primers Lead to Loop-Mediated Isothermal Amplification at Low Temperatures. <i>Analytical Chemistry</i> , 2018 , 90, 8290-8294	7.8	39
178	In vitro selection of ribozymes dependent on peptides for activity. <i>Rna</i> , 2004 , 10, 114-27	5.8	38
177	Addicting diverse bacteria to a noncanonical amino acid. <i>Nature Chemical Biology</i> , 2016 , 12, 138-40	11.7	37
176	Evolving new genetic codes. <i>Trends in Ecology and Evolution</i> , 2004 , 19, 69-75	10.9	37
175	Synthetic evolution. <i>Nature Biotechnology</i> , 2019 , 37, 730-743	44.5	36

174	Directed Evolution of a Panel of Orthogonal T7 RNA Polymerase Variants for in Vivo or in Vitro Synthetic Circuitry. <i>ACS Synthetic Biology</i> , 2015 , 4, 1070-6	5.7	36
173	Dynamic Programming of a DNA Walker Controlled by Protons. <i>ACS Nano</i> , 2020 , 14, 4007-4013	16.7	36
172	Directed evolution of a synthetic phylogeny of programmable Trp repressors. <i>Nature Chemical Biology</i> , 2018 , 14, 361-367	11.7	36
171	Anchoring an extended HTLV-1 Rex peptide within an RNA major groove containing junctional base triples. <i>Structure</i> , 1999 , 7, 1461-72	5.2	36
170	Artificial evolution and natural ribozymes. <i>FASEB Journal</i> , 1995 , 9, 1183-95	0.9	36
169	Retrons and their applications in genome engineering. <i>Nucleic Acids Research</i> , 2019 , 47, 11007-11019	20.1	35
168	The fidelity of template-directed oligonucleotide ligation and the inevitability of polymerase function. <i>Origins of Life and Evolution of Biospheres</i> , 1999 , 29, 375-90	1.5	34
167	The scene of a frozen accident. <i>Rna</i> , 2000 , 6, 485-98	5.8	33
166	Optimization and optimality of a short ribozyme ligase that joins non-Watson-Crick base pairings. <i>Rna</i> , 2001 , 7, 513-23	5.8	33
165	High-surety isothermal amplification and detection of SARS-CoV-2, including with crude enzymes		33
164	Pattern Generation with Nucleic Acid Chemical Reaction Networks. <i>Chemical Reviews</i> , 2019 , 119, 6370-6383	16.8	32
163	Photoactivated DNA cleavage via charge transfer promoted N ₂ release from tris[3-hydroxy-1,2,3-benzotriazine-4(3H)-one]iron(III). <i>Chemical Communications</i> , 2000 , 69-70	5.8	32
162	Beyond allostery: Catalytic regulation of a deoxyribozyme through an entropy-driven DNA amplifier. <i>Journal of Systems Chemistry</i> , 2010 , 1, 13		31
161	Evolution of phage with chemically ambiguous proteomes. <i>BMC Evolutionary Biology</i> , 2003 , 3, 24	3	31
160	The search for missing links between self-replicating nucleic acids and the RNA world. <i>Origins of Life and Evolution of Biospheres</i> , 1995 , 25, 515-30	1.5	31
159	A general RNA motif for cellular transfection. <i>Molecular Therapy</i> , 2012 , 20, 616-24	11.7	29
158	Binding of herpes simplex virus-1 US11 to specific RNA sequences. <i>Nucleic Acids Research</i> , 2005 , 33, 6090-100	10.0	28
157	Anti-Rex aptamers as mimics of the Rex-binding element. <i>Journal of Virology</i> , 1999 , 73, 4962-71	6.6	28

156	High-affinity RNA Aptamers Against the HIV-1 Protease Inhibit Both In Vitro Protease Activity and Late Events of Viral Replication. <i>Molecular Therapy - Nucleic Acids</i> , 2015 , 4, e228	10.7	27
155	Retroelement-Based Genome Editing and Evolution. <i>ACS Synthetic Biology</i> , 2018 , 7, 2600-2611	5.7	27
154	Proliferation and migration of tumor cells in tapered channels. <i>Biomedical Microdevices</i> , 2013 , 15, 635-643	3.7	26
153	In vitro evolution of thermostable p53 variants. <i>Protein Science</i> , 1999 , 8, 731-40	6.3	26
152	Continuous directed evolution for strain and protein engineering. <i>Current Opinion in Biotechnology</i> , 2018 , 53, 158-163	11.4	25
151	Characterization of trimethoprim resistant dihydrofolate reductase mutants by mass spectrometry and inhibition by propargyl-linked antifolates. <i>Chemical Science</i> , 2017 , 8, 4062-4072	9.4	24
150	Fingerprinting Non-Terran Biosignatures. <i>Astrobiology</i> , 2018 , 18, 915-922	3.7	24
149	Exploration of plasticizer and plastic explosive detection and differentiation with serum albumin cross-reactive arrays. <i>Chemical Science</i> , 2012 , 3, 1773	9.4	24
148	An amino acid depleted cell-free protein synthesis system for the incorporation of non-canonical amino acid analogs into proteins. <i>Journal of Biotechnology</i> , 2014 , 178, 12-22	3.7	23
147	Machine learning-aided engineering of hydrolases for PET depolymerization.. <i>Nature</i> , 2022 , 604, 662-667	50.4	23
146	Portable platform for rapid in-field identification of human fecal pollution in water. <i>Water Research</i> , 2018 , 131, 186-195	12.5	22
145	In vitro selection using modified or unnatural nucleotides. <i>Current Protocols in Nucleic Acid Chemistry</i> , 2014 , 56, 9.6.1-33	0.5	22
144	In vitro selection of proteins via emulsion compartments. <i>Methods</i> , 2013 , 60, 75-80	4.6	22
143	Evolving Orthogonal Suppressor tRNAs To Incorporate Modified Amino Acids. <i>ACS Synthetic Biology</i> , 2017 , 6, 108-119	5.7	22
142	A biopolymer by any other name would bind as well: a comparison of the ligand-binding pockets of nucleic acids and proteins. <i>Structure</i> , 1997 , 5, 729-34	5.2	22
141	Directed evolution of streptavidin variants using in vitro compartmentalization. <i>Chemistry and Biology</i> , 2008 , 15, 979-89		22
140	Peptide-templated nucleic acid ligation. <i>Journal of Molecular Evolution</i> , 2003 , 56, 607-15	3.1	22
139	High-Surety Isothermal Amplification and Detection of SARS-CoV-2. <i>MSphere</i> , 2021 , 6,	5	22

138	Custom selenoprotein production enabled by laboratory evolution of recoded bacterial strains. <i>Nature Biotechnology</i> , 2018 , 36, 624-631	44.5	21
137	3D Printing with Nucleic Acid Adhesives. <i>ACS Biomaterials Science and Engineering</i> , 2015 , 1, 19-26	5.5	21
136	Kinetic optimization of a protein-responsive aptamer beacon. <i>Biotechnology and Bioengineering</i> , 2009 , 103, 1049-59	4.9	21
135	A modified consensus approach to mutagenesis inverts the cofactor specificity of <i>Bacillus stearothermophilus</i> lactate dehydrogenase. <i>Protein Engineering, Design and Selection</i> , 2005 , 18, 369-77	1.9	21
134	Direct selection for ribozyme cleavage activity in cells. <i>Rna</i> , 2009 , 15, 2035-45	5.8	20
133	Thinking combinatorially. <i>Current Opinion in Chemical Biology</i> , 1999 , 3, 256-9	9.7	20
132	In Vitro Selection for Small-Molecule-Triggered Strand Displacement and Riboswitch Activity. <i>ACS Synthetic Biology</i> , 2015 , 4, 1144-50	5.7	19
131	Structure-based non-canonical amino acid design to covalently crosslink an antibody-antigen complex. <i>Journal of Structural Biology</i> , 2014 , 185, 215-22	3.4	18
130	Compartmentalized partnered replication for the directed evolution of genetic parts and circuits. <i>Nature Protocols</i> , 2017 , 12, 2493-2512	18.8	18
129	Chemical Tools To Decipher Regulation of Phosphatases by Proline Isomerization on Eukaryotic RNA Polymerase II. <i>ACS Chemical Biology</i> , 2015 , 10, 2405-14	4.9	18
128	Modelling amorphous computations with transcription networks. <i>Journal of the Royal Society Interface</i> , 2009 , 6 Suppl 4, S523-33	4.1	18
127	Discovery of Novel Gain-of-Function Mutations Guided by Structure-Based Deep Learning. <i>ACS Synthetic Biology</i> , 2020 , 9, 2927-2935	5.7	18
126	Charge Shielding Prevents Aggregation of Supercharged GFP Variants at High Protein Concentration. <i>Molecular Pharmaceutics</i> , 2017 , 14, 3269-3280	5.6	17
125	Using RNA aptamers and the proximity ligation assay for the detection of cell surface antigens. <i>Methods in Molecular Biology</i> , 2009 , 504, 385-98	1.4	17
124	Polyvalent Rev decoys act as artificial Rev-responsive elements. <i>Journal of Virology</i> , 1999 , 73, 4341-9	6.6	17
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