Philip C Bevilacqua

List of Publications by Year
in descending order

166 papers	9,909 citations	34105 52 h-index	45317 90 g-index
173 all docs	173 docs citations	173 times ranked	7321 citing authors

#	Article	IF	Citations
1	In vivo genome-wide profiling of RNA secondary structure reveals novel regulatory features. Nature, 2014, 505, 696-700.	27.8	710
2	Incorporation of pseudouridine into mRNA enhances translation by diminishing PKR activation. Nucleic Acids Research, 2010, 38, 5884-5892.	14.5	400
3	General Acid-Base Catalysis in the Mechanism of a Hepatitis Delta Virus Ribozyme. Science, 2000, 287, 1493-1497.	12.6	398
4	RNA catalysis through compartmentalization. Nature Chemistry, 2012, 4, 941-946.	13.6	297
5	Minor-Groove Recognition of Double-Stranded RNA by the Double-Stranded RNA-Binding Domain from the RNA-Activated Protein Kinase PKRâ€. Biochemistry, 1996, 35, 9983-9994.	2.5	232
6	The double-stranded-RNA-binding motif: interference and much more. Nature Reviews Molecular Cell Biology, 2004, 5, 1013-1023.	37.0	229
7	Bioreactor droplets from liposome-stabilized all-aqueous emulsions. Nature Communications, 2014, 5, 4670.	12.8	210
8	5'-Triphosphate-Dependent Activation of PKR by RNAs with Short Stem-Loops. Science, 2007, 318, 1455-1458.	12.6	206
9	Template-directed RNA polymerization and enhanced ribozyme catalysis inside membraneless compartments formed by coacervates. Nature Communications, 2019, 10, 490.	12.8	195
10	Mechanistic Considerations for General Acidâ˘'Base Catalysis by RNA:â€‰ Revisiting the Mechanism of the Hairpin Ribozyme. Biochemistry, 2003, 42, 2259-2265.	2.5	189
11	Genome-Wide Analysis of RNA Secondary Structure. Annual Review of Genetics, 2016, 50, 235-266.	7.6	186
12	Catalytic roles for proton transfer and protonation in ribozymes. Biopolymers, 2004, 73, 90-109.	2.4	144
13	The RNA structurome: transcriptome-wide structure probing with next-generation sequencing. Trends in Biochemical Sciences, 2015, 40, 221-232.	7.5	137
14	Mechanistic Characterization of the HDV Genomic Ribozyme:Â Assessing the Catalytic and Structural Contributions of Divalent Metal Ions within a Multichannel Reaction Mechanismâ€. Biochemistry, 2001, 40, 12022-12038.	2.5	136
15	Comparison of binding of mixed ribose-deoxyribose analogs of CUCU to a ribozyme and to GGAGAA by equilibrium dialysis: evidence for ribozyme specific interactions with 2'-hydroxy groups. Biochemistry, 1991, 30, 10632-10640.	2.5	129
16	Exploring the Energy Landscape of a Small RNA Hairpin. Journal of the American Chemical Society, 2006, 128, 1523-1530.	13.7	129
17	A 1.9 Ã… Crystal Structure of the HDV Ribozyme Precleavage Suggests both Lewis Acid and General Acid Mechanisms Contribute to Phosphodiester Cleavage. Biochemistry, 2010, 49, 6508-6518.	2.5	123
18	Physical Principles and Extant Biology Reveal Roles for RNA-Containing Membraneless Compartments in Origins of Life Chemistry. Biochemistry, 2018, 57, 2509-2519.	2.5	122

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19	Nucleoside modifications modulate activation of the protein kinase PKR in an RNA structure-specific manner. Rna, 2008, 14, 1201-1213.	3.5	119
20	Regulation of innate immunity through RNA structure and the protein kinase PKR. Current Opinion in Structural Biology, 2011, 21, 119-127.	5.7	118
21	Nucleobase catalysis in ribozyme mechanism. Current Opinion in Chemical Biology, 2006, 10, 455-464.	6.1	117
22	Polyamine/Nucleotide Coacervates Provide Strong Compartmentalization of Mg²⁺, Nucleotides, and RNA. Langmuir, 2016, 32, 2041-2049.	3.5	116
23	Determination of in vivo RNA structure in low-abundance transcripts. Nature Communications, 2013, 4, 2971.	12.8	113
24	Bridging the gap between<i>in vitro</i>and<i>in vivo</i>RNA folding. Quarterly Reviews of Biophysics, 2016, 49, e10.	5.7	108
25	Structures, Kinetics, Thermodynamics, and Biological Functions of RNA Hairpins. Annual Review of Physical Chemistry, 2008, 59, 79-103.	10.8	105
26	Structure-seq2: sensitive and accurate genome-wide profiling of RNA structure in vivo. Nucleic Acids Research, 2017, 45, e135-e135.	14.5	104
27	Direct Measurement of a pKanear Neutrality for the Catalytic Cytosine in the Genomic HDV Ribozyme Using Raman Crystallography. Journal of the American Chemical Society, 2007, 129, 13335-13342.	13.7	96
28	RNA G-Quadruplexes in the model plant species Arabidopsis thaliana: prevalence and possible functional roles. Nucleic Acids Research, 2010, 38, 8149-8163.	14.5	93
29	Genome-wide profiling of in vivo RNA structure at single-nucleotide resolution using structure-seq. Nature Protocols, 2015, 10, 1050-1066.	12.0	87
30	Activation of the protein kinase PKR by short double-stranded RNAs with single-stranded tails. Rna, 2004, 10, 1934-1945.	3.5	84
31	Genome-wide RNA structurome reprogramming by acute heat shock globally regulates mRNA abundance. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 12170-12175.	7.1	83
32	Mechanistic Characterization of the HDV Genomic Ribozyme:Â Classifying the Catalytic and Structural Metal Ion Sites within a Multichannel Reaction Mechanismâ€. Biochemistry, 2003, 42, 2982-2994.	2.5	82
33	Charged Nucleobases and Their Potential for RNA Catalysis. Accounts of Chemical Research, 2011, 44, 1270-1279.	15.6	82
34	A role for upstream RNA structure in facilitating the catalytic fold of the genomic hepatitis delta virus ribozyme 1 1Edited by J. A. Doudna. Journal of Molecular Biology, 2000, 301, 349-367.	4.2	81
35	Experimental Approaches for Measuring pKaâ€™s in RNA and DNA. Methods in Enzymology, 2014, 549, 189-219.	1.0	81
36	Folding Thermodynamics and Kinetics of YNMG RNA Hairpins:Â Specific Incorporation of 8-Bromoguanosine Leads to Stabilization by Enhancement of the Folding Rateâ€. Biochemistry, 2004, 43, 14004-14014.	2.5	80

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37	Isolation and Characterization of a Family of Stable RNA Tetraloops with the Motif YNMG That Participate in Tertiary Interactions. Biochemistry, 2002, 41, 12062-12075.	2.5	78
38	Prebiotically-relevant low polyion multivalency can improve functionality of membraneless compartments. Nature Communications, 2020, 11, 5949.	12.8	75
39	Effects of substrate structure on the kinetics of circle opening reactions of the self-splicing intervening sequence fromTetrahymena thermophila: evidence for substrate and Mg2+binding Interactions. Nucleic Acids Research, 1989, 17, 355-371.	14.5	74
40	Folding of a Stable DNA Motif Involves a Highly Cooperative Network of Interactions. Journal of the American Chemical Society, 2003, 125, 16285-16293.	13.7	72
41	Modeling RNA secondary structure folding ensembles using SHAPE mapping data. Nucleic Acids Research, 2018, 46, 314-323.	14.5	72
42	A stable RNA G-quadruplex within the 5â€²-UTR of <i>Arabidopsis thaliana ATR</i> mRNA inhibits translation. Biochemical Journal, 2015, 467, 91-102.	3.7	71
43	5'-Amino pyrene provides a sensitive, nonperturbing fluorescent probe of RNA secondary and tertiary structure formation. Journal of the American Chemical Society, 1993, 115, 4985-4992.	13.7	69
44	Quantum Mechanical/Molecular Mechanical Free Energy Simulations of the Self-Cleavage Reaction in the Hepatitis Delta Virus Ribozyme. Journal of the American Chemical Society, 2014, 136, 1483-1496.	13.7	69
45	Probing RNA structure in vivo. Current Opinion in Structural Biology, 2019, 59, 151-158.	5.7	66
46	A brilliant disguise for self RNA: 5â€™-end and internal modifications of primary transcripts suppress elements of innate immunity. RNA Biology, 2008, 5, 140-144.	3.1	65
47	RNA Dimerization Promotes PKR Dimerization and Activation. Journal of Molecular Biology, 2009, 390, 319-338.	4.2	65
48	The folding pathway of the genomic hepatitis delta virus ribozyme is dominated by slow folding of the pseudoknots 1 1Edited by J. Doudna. Journal of Molecular Biology, 2002, 317, 559-575.	4.2	63
49	Molecular crowders and cosolutes promote folding cooperativity of RNA under physiological ionic conditions. Rna, 2014, 20, 331-347.	3.5	60
50	Thermodynamic Analysis of an RNA Combinatorial Library Contained in a Short Hairpin. Biochemistry, 1998, 37, 15877-15884.	2.5	59
51	Discriminating Self and Non-Self by RNA: Roles for RNA Structure, Misfolding, and Modification in Regulating the Innate Immune Sensor PKR. Accounts of Chemical Research, 2016, 49, 1242-1249.	15.6	58
52	Regulation of PKR by HCV IRES RNA: Importance of Domain II and NS5A. Journal of Molecular Biology, 2010, 400, 393-412.	4.2	57
53	Polyanion-Assisted Ribozyme Catalysis Inside Complex Coacervates. ACS Chemical Biology, 2019, 14, 1243-1248.	3.4	57
54	Thermodynamic and activation parameters for binding of a pyrene-labeled substrate by the Tetrahymena ribozyme: docking is not diffusion-controlled and is driven by a favorable entropy change. Biochemistry, 1995, 34, 14394-14399.	2.5	55

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55	Linkage between proton binding and folding in RNA: A thermodynamic framework and its experimental application for investigating pKa shifting. Rna, 2005, 11, 157-172.	3.5	54
56	Proton Inventory of the Genomic HDV Ribozyme in Mg2+-Containing Solutions. Journal of the American Chemical Society, 2001, 123, 11333-11334.	13.7	52
57	Prevalence of <i>syn</i> nucleobases in the active sites of functional RNAs. Rna, 2011, 17, 1775-1787.	3.5	52
58	Effect of Loop Sequence and Loop Length on the Intrinsic Fluorescence of G-Quadruplexes. Biochemistry, 2013, 52, 3019-3021.	2.5	52
59	A Simple Fluorescence Method for pKaDetermination in RNA and DNA Reveals Highly Shifted pKaâ€™s. Journal of the American Chemical Society, 2013, 135, 7390-7393.	13.7	52
60	Role of the Active Site Guanine in the <i>glmS</i> Ribozyme Self-Cleavage Mechanism: Quantum Mechanical/Molecular Mechanical Free Energy Simulations. Journal of the American Chemical Society, 2015, 137, 784-798.	13.7	52
61	Metal Binding Motif in the Active Site of the HDV Ribozyme Binds Divalent and Monovalent Ions. Biochemistry, 2011, 50, 2672-2682.	2.5	50
62	Thio Effects and an Unconventional Metal Ion Rescue in the Genomic Hepatitis Delta Virus Ribozyme. Biochemistry, 2013, 52, 6499-6514.	2.5	50
63	Inverse Thio Effects in the Hepatitis Delta Virus Ribozyme Reveal that the Reaction Pathway Is Controlled by Metal Ion Charge Density. Biochemistry, 2015, 54, 2160-2175.	2.5	50
64	Cellular conditions of weakly chelated magnesium ions strongly promote RNA stability and catalysis. Nature Communications, 2018, 9, 2149.	12.8	50
65	Design of a Highly Reactive HDV Ribozyme Sequence Uncovers Facilitation of RNA Folding by Alternative Pairings and Physiological Ionic Strength. Journal of Molecular Biology, 2004, 341, 695-712.	4.2	49
66	Fluorescence-Detected Stopped Flow with a Pyrene Labeled Substrate Reveals That Guanosine Facilitates Docking of the 5' Cleavage Site into a High Free Energy Binding Mode in the Tetrahymena Ribozyme. Biochemistry, 1994, 33, 11340-11348.	2.5	47
67	A Mechanistic Framework for Co-transcriptional Folding of the HDV Genomic Ribozyme in the Presence of Downstream Sequence. Journal of Molecular Biology, 2002, 324, 1-16.	4.2	47
68	The Human HDV-like <i>CPEB3</i> Ribozyme Is Intrinsically Fast-Reacting. Biochemistry, 2010, 49, 5321-5330.	2.5	47
69	Driving Forces for Nucleic Acid p<i>K</i>_a Shifting in an A⁺Â·C Wobble: Effects of Helix Position, Temperature, and Ionic Strength. Biochemistry, 2010, 49, 3225-3236.	2.5	47
70	Wild-type is the optimal sequence of the HDV ribozyme under cotranscriptional conditions. Rna, 2007, 13, 2189-2201.	3.5	46
71	Detection of Innersphere Interactions between Magnesium Hydrate and the Phosphate Backbone of the HDV Ribozyme Using Raman Crystallography. Journal of the American Chemical Society, 2008, 130, 9670-9672.	13.7	46
72	Mechanistic Characterization of the HDV Genomic Ribozyme: Solvent Isotope Effects and Proton Inventories in the Absence of Divalent Metal Ions Support C75 as the General Acid. Journal of the American Chemical Society, 2008, 130, 14504-14520.	13.7	46

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73	Toward a Digital Gene Response: RNA G-Quadruplexes with Fewer Quartets Fold with Higher Cooperativity. Journal of the American Chemical Society, 2012, 134, 812-815.	13.7	46
74	Isolation and Characterization of Thermodynamically Stable and Unstable RNA Hairpins from a Triloop Combinatorial Library. Biochemistry, 1999, 38, 15369-15379.	2.5	45
75	Folding Cooperativity in RNA and DNA Is Dependent on Position in the Helixâ€. Biochemistry, 2007, 46, 172-181.	2.5	45
76	Mechanistic Characterization of the HDV Genomic Ribozyme:Â A Mutant of the C41 Motif Provides Insight into the Positioning and Thermodynamic Linkage of Metal Ions and Protonsâ€. Biochemistry, 2007, 46, 3001-3012.	2.5	45
77	An Ontology for Facilitating Discussion of Catalytic Strategies of RNA-Cleaving Enzymes. ACS Chemical Biology, 2019, 14, 1068-1076.	3.4	45
78	Molecular Crowding Favors Reactivity of a Human Ribozyme Under Physiological Ionic Conditions. Biochemistry, 2013, 52, 8187-8197.	2.5	44
79	The GlcN6P cofactor plays multiple catalytic roles in the glmS ribozyme. Nature Chemical Biology, 2017, 13, 439-445.	8.0	44
80	StructureFold: genome-wide RNA secondary structure mapping and reconstruction <i>inÂvivo</i>. Bioinformatics, 2015, 31, 2668-2675.	4.1	43
81	Amyloid Precursor Protein Translation Is Regulated by a 3â€™UTR Guanine Quadruplex. PLoS ONE, 2015, 10, e0143160.	2.5	42
82	A hybridization-based approach for quantitative and low-bias single-stranded DNA ligation. Analytical Biochemistry, 2013, 435, 181-186.	2.4	41
83	Cooperative RNA Folding under Cellular Conditions Arises From Both Tertiary Structure Stabilization and Secondary Structure Destabilization. Biochemistry, 2017, 56, 3422-3433.	2.5	41
84	Thermodynamic Stability of the P4â^'P6 Domain RNA Tertiary Structure Measured by Temperature Gradient Gel Electrophoresisâ€. Biochemistry, 1998, 37, 11162-11170.	2.5	40
85	Evidence that Folding of an RNA Tetraloop Hairpin Is Less Cooperative than Its DNA Counterpart. Biochemistry, 2004, 43, 7992-7998.	2.5	39
86	Contribution of the Closing Base Pair to Exceptional Stability in RNA Tetraloops: Roles for Molecular Mimicry and Electrostatic Factors. Journal of the American Chemical Society, 2009, 131, 8474-8484.	13.7	38
87	Glyoxals as in vivo RNA structural probes of guanine base-pairing. Rna, 2018, 24, 114-124.	3.5	38
88	mRNA structural elements immediately upstream of the start codon dictate dependence upon eIF4A helicase activity. Genome Biology, 2019, 20, 300.	8.8	38
89	Mechanistic Strategies in the HDV Ribozyme: Chelated and Diffuse Metal Ion Interactions and Active Site Protonation. Journal of Physical Chemistry B, 2011, 115, 8346-8357.	2.6	37
90	In vivo RNA structural probing of uracil and guanine base-pairing by 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide (EDC). Rna, 2019, 25, 147-157.	3.5	37

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91	Thermodynamic Coupling of the Loop and Stem in Unusually Stable DNA Hairpins Closed by CG Base Pairs. Journal of the American Chemical Society, 2003, 125, 2032-2033.	13.7	36
92	Identification of the Catalytic Mg²⁺ Ion in the Hepatitis Delta Virus Ribozyme. Biochemistry, 2013, 52, 557-567.	2.5	36
93	Phase-specific RNA accumulation and duplex thermodynamics in multiphase coacervate models for membraneless organelles. Nature Chemistry, 2022, 14, 1110-1117.	13.6	35
94	Elucidation of Catalytic Strategies of Small Nucleolytic Ribozymes from Comparative Analysis of Active Sites. ACS Catalysis, 2018, 8, 314-327.	11.2	34
95	Restricting the Conformational Heterogeneity of RNA by Specific Incorporation of 8-Bromoguanosine. Journal of the American Chemical Society, 2003, 125, 2390-2391.	13.7	32
96	Molecular Dynamics Study of Twister Ribozyme: Role of Mg²⁺ Ions and the Hydrogen-Bonding Network in the Active Site. Biochemistry, 2016, 55, 3834-3846.	2.5	32
97	Technique Development for Probing RNA Structure In Vivo and Genome-Wide. Cold Spring Harbor Perspectives in Biology, 2018, 10, a032250.	5.5	32
98	Role of Unsatisfied Hydrogen Bond Acceptors in RNA Energetics and Specificity. Journal of the American Chemical Society, 2010, 132, 5342-5344.	13.7	31
99	Raman crystallography of RNA. Methods, 2009, 49, 101-111.	3.8	30
100	Simple Method for Determining Nucleobase pKaValues by Indirect Labeling and Demonstration of a pKaof Neutrality in dsDNA. Journal of the American Chemical Society, 2004, 126, 10200-10201.	13.7	29
101	Cooperative Interactions in the Hammerhead Ribozyme Drive p<i>K</i>_a Shifting of G12 and Its Stacked Base C17. Biochemistry, 2017, 56, 2537-2548.	2.5	29
102	RNA multimerization as an organizing force for liquidâ€“liquid phase separation. Rna, 2022, 28, 16-26.	3.5	27
103	StructureFold2: Bringing chemical probing data into the computational fold of RNA structural analysis. Methods, 2018, 143, 12-15.	3.8	26
104	Long-Distance Communication in the HDV Ribozyme: Insights from Molecular Dynamics and Experiments. Journal of Molecular Biology, 2010, 402, 278-291.	4.2	25
105	Tissue-specific changes in the RNA structurome mediate salinity response in <i>Arabidopsis</i>. Rna, 2020, 26, 492-511.	3.5	25
106	Native Tertiary Structure and Nucleoside Modifications Suppress tRNAâ€™s Intrinsic Ability to Activate the Innate Immune Sensor PKR. PLoS ONE, 2013, 8, e57905.	2.5	25
107	Structural and Energetic Consequences of Expanding a Highly Cooperative Stable DNA Hairpin Loop. Journal of the American Chemical Society, 2004, 126, 9570-9577.	13.7	24
108	A Conformationally Restricted Guanosine Analog Reveals the Catalytic Relevance of Three Structures of an RNA Enzyme. Chemistry and Biology, 2007, 14, 23-30.	6.0	24

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109	Chapter 13 Thinking Inside the Box. Methods in Enzymology, 2009, 455, 365-393.	1.0	24
110	Complexity in pH-Dependent Ribozyme Kinetics: Dark p<i>K</i>_a Shifts and Wavy Rateâ€“pH Profiles. Biochemistry, 2018, 57, 483-488.	2.5	24
111	p<i>K</i>_a Shifting in Double-Stranded RNA Is Highly Dependent upon Nearest Neighbors and Bulge Positioning. Biochemistry, 2013, 52, 7470-7476.	2.5	23
112	Decrease in RNA Folding Cooperativity by Deliberate Population of Intermediates in RNA Gâ€Quadruplexes. Angewandte Chemie - International Edition, 2013, 52, 683-686.	13.8	23
113	Activation of PKR by RNA misfolding: HDV ribozyme dimers activate PKR. Rna, 2012, 18, 2157-2165.	3.5	22
114	Functional Roles of Chelated Magnesium Ions in RNA Folding and Function. Biochemistry, 2021, 60, 2374-2386.	2.5	22
115	A Mg2+-dependent RNA Tertiary Structure Forms in the Bacillus subtilis trp Operon Leader Transcript and Appears to Interfere with trpE Translation Control by Inhibiting TRAP Binding. Journal of Molecular Biology, 2003, 332, 555-574.	4.2	21
116	Assessing the Potential Effects of Active Site Mg²⁺ Ions in the <i>glmS</i> Ribozymeâ€“Cofactor Complex. Journal of Physical Chemistry Letters, 2016, 7, 3984-3988.	4.6	20
117	CsrA-Mediated Translational Activation of <i>ymdA</i> Expression in Escherichia coli. MBio, 2020, 11, .	4.1	20
118	Genome-wide analysis of the <i>inÂvivo</i> tRNA structurome reveals RNA structural and modification dynamics under heat stress. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	20
119	Steady-State and Time-Resolved Studies into the Origin of the Intrinsic Fluorescence of G-Quadruplexes. Journal of Physical Chemistry B, 2016, 120, 5146-5158.	2.6	19
120	Quantum Mechanical/Molecular Mechanical Study of the HDV Ribozyme: Impact of the Catalytic Metal Ion on the Mechanism. Journal of Physical Chemistry Letters, 2011, 2, 2906-2911.	4.6	18
121	RNA helical imperfections regulate activation of the protein kinase PKR: Effects of bulge position, size, and geometry. Rna, 2011, 17, 957-966.	3.5	18
122	Mechanistic characterization of the HDV genomic ribozyme: The cleavage site base pair plays a structural role in facilitating catalysis. Rna, 2008, 14, 1746-1760.	3.5	17
123	Mechanistic characterization of the 5â€²-triphosphate-dependent activation of PKR: Lack of 5â€²-end nucleobase specificity, evidence for a distinct triphosphate binding site, and a critical role for the dsRBD. Rna, 2012, 18, 1862-1874.	3.5	16
124	Role of RNA Structure in Transcription Attenuation in Bacillus subtilis: The trpEDCFBA Operon as a Model System. Methods in Enzymology, 2003, 371, 392-404.	1.0	15
125	Specificity of the Double-Stranded RNA-Binding Domain from the RNA-Activated Protein Kinase PKR for Double-Stranded RNA: Insights from Thermodynamics and Small-Angle X-ray Scattering. Biochemistry, 2012, 51, 9312-9322.	2.5	15
126	Bacterial Riboswitches and Ribozymes Potently Activate the Human Innate Immune Sensor PKR. ACS Chemical Biology, 2016, 11, 1118-1127.	3.4	15

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127	Structure-seq2 probing of RNA structure upon amino acid starvation reveals both known and novel RNA switches in <i>Bacillus subtilis</i>. Rna, 2020, 26, 1431-1447.	3.5	15
128	TRAP-5â€² stemâ€“loop interaction increases the efficiency of transcription termination in the <i>Bacillus subtilis trpEDCFBA</i> operon leader region. Rna, 2007, 13, 2020-2033.	3.5	14
129	Protein Structure Is Related to RNA Structural Reactivity In Vivo. Journal of Molecular Biology, 2016, 428, 758-766.	4.2	14
130	Activation of the <i>glmS</i> Ribozyme Nucleophile via Overdetermined Hydrogen Bonding. Biochemistry, 2017, 56, 4313-4317.	2.5	14
131	Cellular Concentrations of Nucleotide Diphosphate-Chelated Magnesium Ions Accelerate Catalysis by RNA and DNA Enzymes. Biochemistry, 2019, 58, 3971-3979.	2.5	14
132	Cellular Small Molecules Contribute to Twister Ribozyme Catalysis. Journal of the American Chemical Society, 2018, 140, 10578-10582.	13.7	13
133	RNA sequence and structure control assembly and function of RNA condensates. Rna, 2021, 27, 1589-1601.	3.5	13
134	Mechanistic Analysis of Activation of the Innate Immune Sensor PKR by Bacterial RNA. Journal of Molecular Biology, 2015, 427, 3501-3515.	4.2	12
135	Design of highly active double-pseudoknotted ribozymes: a combined computational and experimental study. Nucleic Acids Research, 2019, 47, 29-42.	14.5	12
136	Single-nucleotide control of tRNA folding cooperativity under near-cellular conditions. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 23075-23082.	7.1	12
137	A Simple Molecular Model for Thermophilic Adaptation of Functional Nucleic Acids. Biochemistry, 2007, 46, 4232-4240.	2.5	10
138	In Vivo Genome-Wide RNA Structure Probing with Structure-seq. Methods in Molecular Biology, 2019, 1933, 305-341.	0.9	10
139	Experimental demonstration and pan-structurome prediction of climate-associated riboSNitches in Arabidopsis. Genome Biology, 2022, 23, 101.	8.8	10
140	Molecular basis of TRAPâ€“5â€²SL RNA interaction in the <i>Bacillus subtilis trp</i> operon transcription attenuation mechanism. Rna, 2009, 15, 55-66.	3.5	9
141	Molecular Mechanism for Folding Cooperativity of Functional RNAs in Living Organisms. Biochemistry, 2018, 57, 2994-3002.	2.5	8
142	Long Tracts of Guanines Drive Aggregation of RNA G-Quadruplexes in the Presence of Spermine. Biochemistry, 2021, 60, 2715-2726.	2.5	8
143	The Biophysics of RNA. ACS Chemical Biology, 2007, 2, 440-444.	3.4	7
144	Biological solution conditions and flanking sequence modulate LLPS of RNA G-quadruplex structures. Rna, 2022, 28, 1197-1209.	3.5	7

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145	Single-Nucleotide Resolution of RNA Strands in the Presence of their RNA Complements. BioTechniques, 1999, 27, 450-456.	1.8	6
146	A High-Throughput Biological Calorimetry Core. Methods in Enzymology, 2016, 567, 435-460.	1.0	6
147	Analyzing RNA and DNA Folding Using Temperature Gradient Gel Electrophoresis (TGGE) with Application to In Vitro Selections. Methods in Enzymology, 2009, 468, 389-408.	1.0	5
148	Amino Acid Specific Nonenzymatic Montmorilloniteâ€Promoted RNA Polymerization. ChemSystemsChem, 2021, 3, e2000060.	2.6	5
149	Measuring the activity and structure of functional RNAs inside compartments formed by liquid-liquid phase separation. Methods in Enzymology, 2021, 646, 307-327.	1.0	5
150	Mechanistic Analysis of the Hepatitis Delta Virus (HDV) Ribozyme: Methods for RNA Preparation, Structure Mapping, Solvent Isotope Effects, and Co-transcriptional Cleavage. Methods in Molecular Biology, 2012, 848, 21-40.	0.9	5
151	Continuous Monitoring of Enzyme Reactions on a Microchip:Â Application to Catalytic RNA Self-Cleavage. Analytical Chemistry, 2004, 76, 6921-6927.	6.5	4
152	Editorial overview: exploring the vast dynamic range of RNA dynamics. Current Opinion in Chemical Biology, 2008, 12, 601-603.	6.1	4
153	PKR and the ribosome compete for mRNA. Nature Chemical Biology, 2009, 5, 873-874.	8.0	4
154	Probing fast ribozyme reactions under biological conditions with rapid quench-flow kinetics. Methods, 2017, 120, 125-134.	3.8	4
155	Small Molecule Rescue and Glycosidic Conformational Analysis of the Twister Ribozyme. Biochemistry, 2019, 58, 4857-4868.	2.5	4
156	Battle for the Bulge. Chemistry and Biology, 2002, 9, 854-855.	6.0	3
157	Phylogenetic conservation of RNA secondary and tertiary structure in the trpEDCFBA operon leader transcript in Bacillus. Rna, 2003, 9, 1502-1515.	3.5	3
158	Insight into the functional versatility of RNA through model-making with applications to data fitting. Quarterly Reviews of Biophysics, 2007, 40, 55-85.	5.7	3
159	A LASER-focused view into cells. Nature Chemical Biology, 2018, 14, 200-201.	8.0	2
160	Investigation of the pKa of the Nucleophilic O2â€² of the Hairpin Ribozyme. Journal of Physical Chemistry B, 2021, 125, 11869-11883.	2.6	2
161	Inverse RNA Folding Workflow to Design and Test Ribozymes that Include Pseudoknots. Methods in Molecular Biology, 2021, 2167, 113-143.	0.9	2
162	Prospecting for Aptamers in the Human Genome. Chemistry and Biology, 2012, 19, 1218-1220.	6.0	1

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163	Eliminating blurry bands in gels with a simple cost-effective repair to the gel cassette. Rna, 2016, 22, 1929-1930.	3.5	1
164	The wonder of RNA: a personal reflection of the last 20 years. Rna, 2015, 21, 515-516.	3.5	0
165	Nucleoside modifications modulate activation of the protein kinase PKR in an RNA structureâ€specific manner. FASEB Journal, 2009, 23, 662.4.	0.5	0
166	KEY CATALYTIC STRATEGIES OF RIBOZYMES. , 2018, , .		0