Anna Marie Pyle

List of Publications by Year
in descending order

145 papers	12,262 citations	19657 61 h-index	29157 104 g-index
150 all docs	150 docs citations	150 times ranked	8933 citing authors

#	Article	IF	Citations
1	<i>mda-5</i>: An interferon-inducible putative RNA helicase with double-stranded RNA-dependent ATPase activity and melanoma growth-suppressive properties. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 637-642.	7.1	577
2	Translocation and Unwinding Mechanisms of RNA and DNA Helicases. Annual Review of Biophysics, 2008, 37, 317-336.	10.0	444
3	Crystal Structure of a Self-Spliced Group II Intron. Science, 2008, 320, 77-82.	12.6	441
4	RNA translocation and unwinding mechanism of HCV NS3 helicase and its coordination by ATP. Nature, 2006, 439, 105-108.	27.8	343
5	Structural Insights into RNA Recognition by RIG-I. Cell, 2011, 147, 409-422.	28.9	337
6	Metal ions in the structure and function of RNA. Journal of Biological Inorganic Chemistry, 2002, 7, 679-690.	2.6	328
7	HOTAIR Forms an Intricate and Modular Secondary Structure. Molecular Cell, 2015, 58, 353-361.	9.7	299
8	Alternative Roles for Metal Ions in Enzyme Catalysis and the Implications for Ribozyme Chemistry. Chemical Reviews, 2007, 107, 97-113.	47.7	285
9	Active Disruption of an RNA-Protein Interaction by a DExH/D RNA Helicase. Science, 2001, 291, 121-125.	12.6	280
10	The Molecular Interactions That Stabilize RNA Tertiary Structure: RNA Motifs, Patterns, and Networks. Accounts of Chemical Research, 2011, 44, 1302-1311.	15.6	276
11	RNA backbone: Consensus all-angle conformers and modular string nomenclature (an RNA Ontology) Tj ETQq1 1 0.784314 rgBT /Overl	3.5	216
12	RNA substrate binding site in the catalytic core of the Tetrahymena ribozyme. Nature, 1992, 358, 123-128.	27.8	215
13	The DExH protein NPH-II is a processive and directional motor for unwinding RNA. Nature, 2000, 403, 447-451.	27.8	209
14	Temperature-dependent innate defense against the common cold virus limits viral replication at warm temperature in mouse airway cells. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 827-832.	7.1	199
15	Ribozyme recognition of RNA by tertiary interactions with specific ribose 2â€²-OH groups. Nature, 1991, 350, 628-631.	27.8	196
16	Calculating the electrostatic properties of RNA provides new insights into molecular interactions and function. Nature Structural Biology, 1999, 6, 1055-1061.	9.7	196
17	The hepatitis C viral NS3 protein is a processive DNA helicase with cofactor enhanced RNA unwinding. EMBO Journal, 2002, 21, 1168-1176.	7.8	191
18	Probing Nucleic Acids with Transition Metal Complexes. Progress in Inorganic Chemistry, 2007, , 413-475.	3.0	191

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19	Single-cell longitudinal analysis of SARS-CoV-2 infection in human airway epithelium identifies target cells, alterations in gene expression, and cell state changes. PLoS Biology, 2021, 19, e3001143.	5.6	180
20	Visualizing Group II Intron Catalysis through the Stages of Splicing. Cell, 2012, 151, 497-507.	28.9	155
21	The architectural organization and mechanistic function of group II intron structural elements. Current Opinion in Structural Biology, 1998, 8, 301-308.	5.7	144
22	Calculation of pKas in RNA: On the Structural Origins and Functional Roles of Protonated Nucleotides. Journal of Molecular Biology, 2007, 366, 1475-1496.	4.2	137
23	A structural analysis of the group II intron active site and implications for the spliceosome. Rna, 2010, 16, 1-9.	3.5	127
24	Stepping through an RNA structure: a novel approach to conformational analysis 1 1Edited by D. Draper. Journal of Molecular Biology, 1998, 284, 1465-1478.	4.2	126
25	Metal ion binding sites in a group II intron core. Nature Structural Biology, 2000, 7, 1111-1116.	9.7	125
26	Two Competing Pathways for Self-splicing by Group II Introns: A Quantitative Analysis ofin VitroReaction Rates and Products. Journal of Molecular Biology, 1996, 256, 31-49.	4.2	121
27	Periodic cycles of RNA unwinding and pausing by hepatitis C virus NS3 helicase. Nature, 2004, 430, 476-480.	27.8	121
28	Visualizing the secondary and tertiary architectural domains of lncRNA RepA. Nature Chemical Biology, 2017, 13, 282-289.	8.0	121
29	Defining functional groups, core structural features and inter-domain tertiary contacts essential for group II intron self-splicing: a NAIM analysis. EMBO Journal, 1998, 17, 7091-7104.	7.8	111
30	Building a Kinetic Framework for Group II Intron Ribozyme Activity: Quantitation of Interdomain Binding and Reaction Rate. Biochemistry, 1994, 33, 2716-2725.	2.5	109
31	The tertiary structure of group II introns: implications for biological function and evolution. Critical Reviews in Biochemistry and Molecular Biology, 2010, 45, 215-232.	5.2	108
32	Remarkable morphological variability of a common RNA folding motif: the GNRATetraloop-receptor interaction 1 1Edited by D. E. Draper. Journal of Molecular Biology, 1997, 266, 493-506.	4.2	106
33	RNA structure comparison, motif search and discovery using a reduced representation of RNA conformational space. Nucleic Acids Research, 2003, 31, 4755-4761.	14.5	103
34	Shape-selective targeting of DNA by phenanthrenequinone diiminerhodium(III) photocleaving agents. Journal of the American Chemical Society, 1989, 111, 4520-4522.	13.7	100
35	The Serine Protease Domain of Hepatitis C Viral NS3 Activates RNA Helicase Activity by Promoting the Binding of RNA Substrate. Journal of Biological Chemistry, 2007, 282, 34913-34920.	3.4	98
36	Folding of group II introns: a model system for large, multidomain RNAs?. Trends in Biochemical Sciences, 2007, 32, 138-145.	7.5	98

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37	Defining the functional determinants for RNA surveillance by RIGâ€ł. EMBO Reports, 2013, 14, 772-779.	4.5	97
38	Productive folding to the native state by a group II intron ribozyme. Journal of Molecular Biology, 2002, 315, 297-310.	4.2	96
39	Hepatitis C Viral NS3-4A Protease Activity Is Enhanced by the NS3 Helicase. Journal of Biological Chemistry, 2008, 283, 29929-29937.	3.4	95
40	Group II intron splicing in vivo by first-step hydrolysis. Nature, 1998, 391, 915-918.	27.8	94
41	The molecular mechanism of RIGâ€ł activation and signaling. Immunological Reviews, 2021, 304, 154-168.	6.0	93
42	Solution structure of domain 5 of a group II intron ribozyme reveals a new RNA motif. Nature Structural and Molecular Biology, 2004, 11, 187-192.	8.2	92
43	Conversion of a Group II Intron into a New Multiple-Turnover Ribozyme that Selectively Cleaves Oligonucleotides: Elucidation of Reaction Mechanism and Structure/Function Relationships. Biochemistry, 1995, 34, 2965-2977.	2.5	88
44	Structural basis for exon recognition by a group II intron. Nature Structural and Molecular Biology, 2008, 15, 1221-1222.	8.2	87
45	Group II Intron Self-Splicing. Annual Review of Biophysics, 2016, 45, 183-205.	10.0	87
46	A tertiary interaction that links active-site domains to the 5â€² splice site of a group II intron. Nature, 2000, 406, 315-318.	27.8	83
47	Ribozyme Catalysis from the Major Groove of Group II Intron Domain 5. Molecular Cell, 1998, 1, 433-441.	9.7	82
48	A DEAD Protein that Activates Intron Self-Splicing without Unwinding RNA. Molecular Cell, 2006, 24, 611-617.	9.7	82
49	<i>RCrane</i>: semi-automated RNA model building. Acta Crystallographica Section D: Biological Crystallography, 2012, 68, 985-995.	2.5	80
50	Crystal structures of a group II intron maturase reveal a missing link in spliceosome evolution. Nature Structural and Molecular Biology, 2016, 23, 558-565.	8.2	79
51	An obligate intermediate along the slow folding pathway of a group II intron ribozyme. Nucleic Acids Research, 2005, 33, 6674-6687.	14.5	73
52	Single-molecule analysis of Mss116-mediated group II intron folding. Nature, 2010, 467, 935-939.	27.8	73
53	Visualizing the Determinants of Viral RNA Recognition by Innate Immune Sensor RIG-I. Structure, 2012, 20, 1983-1988.	3.3	73
54	Evaluating and Learning from RNA Pseudotorsional Space: Quantitative Validation of a Reduced Representation for RNA Structure. Journal of Molecular Biology, 2007, 372, 942-957.	4.2	72

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55	Stopped-Flow Fluorescence Spectroscopy of a Group II Intron Ribozyme Reveals that Domain 1 Is an Independent Folding Unit with a Requirement for Specific Mg2+Ions in the Tertiary Structureâ€. Biochemistry, 1997, 36, 4718-4730.	2.5	69
56	Backbone tracking by the SF2 helicase NPH-II. Nature Structural and Molecular Biology, 2004, 11, 526-530.	8.2	69
57	An ultraprocessive, accurate reverse transcriptase encoded by a metazoan group II intron. Rna, 2018, 24, 183-195.	3.5	69
58	Tertiary architecture of the<i>Oceanobacillus iheyensis</i>group II intron. Rna, 2010, 16, 57-69.	3.5	68
59	An Alternative Route for the Folding of Large RNAs: Apparent Two-state Folding by a Group II Intron Ribozyme. Journal of Molecular Biology, 2003, 334, 639-652.	4.2	67
60	Replacement of the Conserved G.cntdot.U with a G-C Pair at the Cleavage Site of the Tetrahymena Ribozyme Decreases Binding, Reactivity, and Fidelity. Biochemistry, 1994, 33, 13856-13863.	2.5	66
61	A single active-site region for a group II intron. Nature Structural and Molecular Biology, 2005, 12, 626-627.	8.2	66
62	The identification of novel RNA structural motifs using COMPADRES: an automated approach to structural discovery. Nucleic Acids Research, 2004, 32, 6650-6659.	14.5	65
63	Site-Specific Labeling of RNA with Fluorophores and Other Structural Probes. Methods, 1999, 18, 60-70.	3.8	64
64	Mechanism of Mss116 ATPase Reveals Functional Diversity of DEAD-Box Proteins. Journal of Molecular Biology, 2011, 409, 399-414.	4.2	63
65	Small molecules that target group II introns are potent antifungal agents. Nature Chemical Biology, 2018, 14, 1073-1078.	8.0	61
66	Structural insights into RNA splicing. Current Opinion in Structural Biology, 2009, 19, 260-266.	5.7	60
67	Sequence Specificity of a Group II Intron Ribozyme:â€‰ Multiple Mechanisms for Promoting Unusually High Discrimination against Mismatched Targets. Biochemistry, 1998, 37, 3839-3849.	2.5	59
68	The NS4A Protein of Hepatitis C Virus Promotes RNA-Coupled ATP Hydrolysis by the NS3 Helicase. Journal of Virology, 2009, 83, 3268-3275.	3.4	59
69	Duplex RNA activated ATPases (DRAs). RNA Biology, 2013, 10, 111-120.	3.1	59
70	More than one way to splice an RNA: Branching without a bulge and splicing without branching in group II introns. Rna, 1998, 4, 1186-1202.	3.5	58
71	A folding control element for tertiary collapse of a group II intron ribozyme. Nature Structural and Molecular Biology, 2007, 14, 37-44.	8.2	58
72	Group II intron ribozymes that cleave DNA and RNA linkages with similar efficiency, and lack contacts with substrate 2â€²-hydroxyl groups. Chemistry and Biology, 1995, 2, 761-770.	6.0	56

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73	Semiautomated model building for RNA crystallography using a directed rotameric approach. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 8177-8182.	7.1	54
74	Protein-Facilitated Folding of Group II Intron Ribozymes. Journal of Molecular Biology, 2010, 397, 799-813.	4.2	54
75	High resolution footprinting ofEcoRI and distamycin with Rh(phi)2(bpy)3+, a new photofootprinting reagent. Nucleic Acids Research, 1989, 17, 10259-10279.	14.5	52
76	The Thermodynamic Basis for Viral RNA Detection by the RIG-I Innate Immune Sensor. Journal of Biological Chemistry, 2012, 287, 42564-42573.	3.4	52
77	Establishing the role of ATP for the function of the RIG-I innate immune sensor. ELife, 2015, 4, .	6.0	52
78	Structural Insights into the Mechanism of Group II Intron Splicing. Trends in Biochemical Sciences, 2017, 42, 470-482.	7.5	50
79	[10] Using DNAzylnes to cut, process, and map RNA molecules for structural studies or modification. Methods in Enzymology, 2000, 317, 140-146.	1.0	49
80	Group II Intron Folding under Near-physiological Conditions: Collapsing to the Near-native State. Journal of Molecular Biology, 2007, 366, 1099-1114.	4.2	49
81	Native Purification and Analysis of Long RNAs. Methods in Enzymology, 2015, 558, 3-37.	1.0	49
82	Structural basis for IL-1Î± recognition by a modified DNA aptamer that specifically inhibits IL-1Î± signaling. Nature Communications, 2017, 8, 810.	12.8	49
83	RNA folding. Current Opinion in Structural Biology, 1995, 5, 303-310.	5.7	48
84	A Kinetic Intermediate that Regulates Proper Folding of a Group II Intron RNA. Journal of Molecular Biology, 2008, 375, 572-580.	4.2	48
85	Regional Differences in Airway Epithelial Cells Reveal Tradeoff between Defense against Oxidative Stress and Defense against Rhinovirus. Cell Reports, 2018, 24, 3000-3007.e3.	6.4	46
86	Phylogenetic Analysis with Improved Parameters Reveals Conservation in lncRNA Structures. Journal of Molecular Biology, 2019, 431, 1592-1603.	4.2	46
87	Sequencing and Structure Probing of Long RNAs Using MarathonRT: A Next-Generation Reverse Transcriptase. Journal of Molecular Biology, 2020, 432, 3338-3352.	4.2	46
88	The Pathway for DNA Recognition and RNA Integration by a Group II Intron Retrotransposon. Molecular Cell, 2003, 11, 795-805.	9.7	45
89	Robust Translocation Along a Molecular Monorail: the NS3 Helicase from Hepatitis C Virus Traverses Unusually Large Disruptions in its Track. Journal of Molecular Biology, 2006, 358, 974-982.	4.2	45
90	Establishing a Mechanistic Basis for the Large Kinetic Steps of the NS3 Helicase. Journal of Biological Chemistry, 2009, 284, 2512-2521.	3.4	44

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91	Crystal structure of a group II intron in the pre-catalytic state. Nature Structural and Molecular Biology, 2012, 19, 555-557.	8.2	44
92	The Acidic Domain of Hepatitis C Virus NS4A Contributes to RNA Replication and Virus Particle Assembly. Journal of Virology, 2011, 85, 1193-1204.	3.4	43
93	Parts, assembly and operation of the RIG-I family of motors. Current Opinion in Structural Biology, 2014, 25, 25-33.	5.7	43
94	RIG-I Selectively Discriminates against 5â€²-Monophosphate RNA. Cell Reports, 2019, 26, 2019-2027.e4.	6.4	43
95	A Group II Intron Inserted into a Bacterial Heat-Shock Operon Shows Autocatalytic Activity and Unusual Thermostability. Biochemistry, 2003, 42, 3409-3418.	2.5	42
96	Now on display: a gallery of group II intron structures at different stages of catalysis. Mobile DNA, 2013, 4, 14.	3.6	41
97	Guiding ribozyme cleavage through motif recognition: the mechanism of cleavage site selection by a group II intron ribozyme. Journal of Molecular Biology, 2001, 306, 655-668.	4.2	39
98	Principles of ion recognition in RNA: insights from the group II intron structures. Rna, 2014, 20, 516-527.	3.5	38
99	An evolving arsenal: viral RNA detection by RIG-I-like receptors. Current Opinion in Microbiology, 2014, 20, 76-81.	5.1	38
100	Linking the group II intron catalytic domains: tertiary contacts and structural features of domain 3. EMBO Journal, 2005, 24, 3906-3916.	7.8	37
101	Domains 2 and 3 Interact to Form Critical Elements of the Group II Intron Active Site. Journal of Molecular Biology, 2003, 330, 197-209.	4.2	36
102	Branch-site selection in a group II intron mediated by active recognition of the adenine amino group and steric exclusion of non-adenine functionalities. Journal of Molecular Biology, 1997, 267, 163-171.	4.2	35
103	RNA helicases and remodeling proteins. Current Opinion in Chemical Biology, 2011, 15, 636-642.	6.1	35
104	The GANC Tetraloop: A Novel Motif in the Group IIC Intron Structure. Journal of Molecular Biology, 2008, 383, 475-481.	4.2	31
105	Visualizing group II intron dynamics between the first and second steps of splicing. Nature Communications, 2020, 11, 2837.	12.8	31
106	Dual roles for the Mss116 cofactor during splicing of the ai5Î³ group II intron. Nucleic Acids Research, 2010, 38, 6602-6609.	14.5	30
107	Three essential and conserved regions of the group II intron are proximal to the 5â€²-splice site. Rna, 2008, 14, 11-24.	3.5	29
108	Group II introns: highly specific endonucleases with modular structures and diverse catalytic functions. Methods, 2002, 28, 323-335.	3.8	27

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109	A map of the binding site for catalytic domain 5 in the core of a group II intron ribozyme. EMBO Journal, 1998, 17, 7105-7117.	7.8	26
110	The Receptor for Branch-Site Docking within a Group II Intron Active Site. Molecular Cell, 2006, 23, 831-840.	9.7	26
111	Discrete RNA Libraries from Pseudo-Torsional Space. Journal of Molecular Biology, 2012, 421, 6-26.	4.2	26
112	Choosing between DNA and RNA: the polymer specificity of RNA helicase NPH-II. Nucleic Acids Research, 2005, 33, 644-649.	14.5	25
113	The RIG-I ATPase core has evolved a functional requirement for allosteric stabilization by the Pincer domain. Nucleic Acids Research, 2014, 42, 11601-11611.	14.5	23
114	Crystal structure of group II intron domain 1 reveals a template for RNA assembly. Nature Chemical Biology, 2015, 11, 967-972.	8.0	23
115	Antagonistic substrate binding by a group II intron ribozyme. Journal of Molecular Biology, 1999, 291, 15-27.	4.2	21
116	A new way to see RNA. Quarterly Reviews of Biophysics, 2011, 44, 433-466.	5.7	21
117	Double-stranded RNA-dependent ATPase DRH-3. Journal of Biological Chemistry, 2010, 285, 25363-25371.	3.4	20
118	The group II intron maturase: a reverse transcriptase and splicing factor go hand in hand. Current Opinion in Structural Biology, 2017, 47, 30-39.	5.7	19
119	The NPH-II Helicase Displays Efficient DNAÂ·RNA Helicase Activity and a Pronounced Purine Sequence Bias. Journal of Biological Chemistry, 2010, 285, 11692-11703.	3.4	17
120	Solving nucleic acid structures by molecular replacement: examples from group II intron studies. Acta Crystallographica Section D: Biological Crystallography, 2013, 69, 2174-2185.	2.5	17
121	Predicted group II intron lineages E and F comprise catalytically active ribozymes. Rna, 2013, 19, 1266-1278.	3.5	16
122	A conserved element that stabilizes the group II intron active site. Rna, 2008, 14, 1048-1056.	3.5	15
123	Visualizing the ai5Î³ group IIB intron. Nucleic Acids Research, 2014, 42, 1947-1958.	14.5	15
124	Selective RNA targeting and regulated signaling by RIG-I is controlled by coordination of RNA and ATP binding. Nucleic Acids Research, 2016, 45, gkw816.	14.5	15
125	RIG-I Recognition of RNA Targets: The Influence of Terminal Base Pair Sequence and Overhangs on Affinity and Signaling. Cell Reports, 2019, 29, 3807-3815.e3.	6.4	15
126	Inside an intron invasion. Nature, 1996, 381, 280-281.	27.8	14

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127	The linear form of a group II intron catalyzes efficient autocatalytic reverse splicing, establishing a potential for mobility. Rna, 2009, 15, 473-482.	3.5	14
128	The 2â€²-OH group at the group II intron terminus acts as a proton shuttle. Nature Chemical Biology, 2010, 6, 218-224.	8.0	14
129	Dicer-related helicase 3 forms an obligate dimer for recognizing 22G-RNA. Nucleic Acids Research, 2014, 42, 3919-3930.	14.5	14
130	Looking at LncRNAs with the Ribozyme Toolkit. Molecular Cell, 2014, 56, 13-17.	9.7	13
131	Noncoding RNAs: biology and applicationsâ€"a Keystone Symposia report. Annals of the New York Academy of Sciences, 2021, 1506, 118-141.	3.8	13
132	NS3 from Hepatitis C Virus Strain JFH-1 Is an Unusually Robust Helicase That Is Primed To Bind and Unwind Viral RNA. Journal of Virology, 2018, 92, .	3.4	12
133	The Brace for a Growing Scaffold: Mss116 Protein Promotes RNA Folding by Stabilizing an Early Assembly Intermediate. Journal of Molecular Biology, 2012, 422, 347-365.	4.2	11
134	Group II Introns and Their Protein Collaborators. Springer Series in Biophysics, 2009, , 167-182.	0.4	11
135	Evolving A RIG-I Antagonist: A Modified DNA Aptamer Mimics Viral RNA. Journal of Molecular Biology, 2021, 433, 167227.	4.2	10
136	Molecular Mechanics of RNA Translocases. Methods in Enzymology, 2012, 511, 131-147.	1.0	8
137	Small-Molecule Antagonists of the RIG-I Innate Immune Receptor. ACS Chemical Biology, 2020, 15, 311-317.	3.4	8
138	Direct tracking of reverse-transcriptase speed and template sensitivity: implications for sequencing and analysis of long RNA molecules. Nucleic Acids Research, 2022, 50, 6980-6989.	14.5	8
139	Capping by Branching: A New Ribozyme Makes Tiny Lariats. Science, 2005, 309, 1530-1531.	12.6	7
140	The <i>In Vivo</i> and <i>In Vitro</i> Architecture of the Hepatitis C Virus RNA Genome Uncovers Functional RNA Secondary and Tertiary Structures. Journal of Virology, 2022, 96, e0194621.	3.4	7
141	Nucleotide Analog Interference Mapping and Suppression: Specific Applications in Studies of RNA Tertiary Structure, Dynamic Helicase Mechanism and RNAâ€"Protein Interactions. , 0, , 259-293.		6
142	Protein-Facilitated Ribozyme Folding and Catalysis. Nucleic Acids Symposium Series, 2008, 52, 67-68.	0.3	5
143	How to Drive Your Helicase in a Straight Line. Cell, 2009, 139, 458-459.	28.9	4
144	AMIGOS III: pseudo-torsion angle visualization and motif-based structure comparison of nucleic acids. Bioinformatics, 2022, 38, 2937-2939.	4.1	1

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145	Group II intron ribozymes: RNA machines that shape eukaryotic evolution. FASEB Journal, 2007, 21, A41.	0.5	0