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	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
2	AMIGOS III: pseudo-torsion angle visualization and motif-based structure comparison of nucleic acids. Bioinformatics, 2022, 38, 2937-2939.	4.1	1
3	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
4	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
5	The molecular mechanism of RIGâ€ł activation and signaling. Immunological Reviews, 2021, 304, 154-168.	6.0	93
6	Evolving A RIG-I Antagonist: A Modified DNA Aptamer Mimics Viral RNA. Journal of Molecular Biology, 2021, 433, 167227.	4.2	10
7	Noncoding RNAs: biology and applicationsâ€"a Keystone Symposia report. Annals of the New York Academy of Sciences, 2021, 1506, 118-141.	3.8	13
8	Visualizing group II intron dynamics between the first and second steps of splicing. Nature Communications, 2020, 11, 2837.	12.8	31
9	Small-Molecule Antagonists of the RIG-I Innate Immune Receptor. ACS Chemical Biology, 2020, 15, 311-317.	3.4	8
10	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
11	Phylogenetic Analysis with Improved Parameters Reveals Conservation in lncRNA Structures. Journal of Molecular Biology, 2019, 431, 1592-1603.	4.2	46
12	RIG-I Selectively Discriminates against 5â€²-Monophosphate RNA. Cell Reports, 2019, 26, 2019-2027.e4.	6.4	43
13	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
14	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
15	An ultraprocessive, accurate reverse transcriptase encoded by a metazoan group II intron. Rna, 2018, 24, 183-195.	3.5	69
16	Small molecules that target group II introns are potent antifungal agents. Nature Chemical Biology, 2018, 14, 1073-1078.	8.0	61
17	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
18	Visualizing the secondary and tertiary architectural domains of lncRNA RepA. Nature Chemical Biology, 2017, 13, 282-289.	8.0	121

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19	Structural Insights into the Mechanism of Group II Intron Splicing. Trends in Biochemical Sciences, 2017, 42, 470-482.	7.5	50
20	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
21	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
22	Group II Intron Self-Splicing. Annual Review of Biophysics, 2016, 45, 183-205.	10.0	87
23	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
24	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
25	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
26	Native Purification and Analysis of Long RNAs. Methods in Enzymology, 2015, 558, 3-37.	1.0	49
27	HOTAIR Forms an Intricate and Modular Secondary Structure. Molecular Cell, 2015, 58, 353-361.	9.7	299
28	Crystal structure of group II intron domain 1 reveals a template for RNA assembly. Nature Chemical Biology, 2015, 11, 967-972.	8.0	23
29	Establishing the role of ATP for the function of the RIG-I innate immune sensor. ELife, 2015, 4, .	6.0	52
30	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
31	Dicer-related helicase 3 forms an obligate dimer for recognizing 22G-RNA. Nucleic Acids Research, 2014, 42, 3919-3930.	14.5	14
32	Visualizing the ai5Î³ group IIB intron. Nucleic Acids Research, 2014, 42, 1947-1958.	14.5	15
33	Parts, assembly and operation of the RIG-I family of motors. Current Opinion in Structural Biology, 2014, 25, 25-33.	5.7	43
34	Principles of ion recognition in RNA: insights from the group II intron structures. Rna, 2014, 20, 516-527.	3.5	38
35	Looking at LncRNAs with the Ribozyme Toolkit. Molecular Cell, 2014, 56, 13-17.	9.7	13
36	An evolving arsenal: viral RNA detection by RIG-I-like receptors. Current Opinion in Microbiology, 2014, 20, 76-81.	5.1	38

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37	Now on display: a gallery of group II intron structures at different stages of catalysis. Mobile DNA, 2013, 4, 14.	3.6	41
38	Predicted group II intron lineages E and F comprise catalytically active ribozymes. Rna, 2013, 19, 1266-1278.	3.5	16
39	Duplex RNA activated ATPases (DRAs). RNA Biology, 2013, 10, 111-120.	3.1	59
40	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
41	Defining the functional determinants for RNA surveillance by RIGâ€Ι. EMBO Reports, 2013, 14, 772-779.	4.5	97
42	Molecular Mechanics of RNA Translocases. Methods in Enzymology, 2012, 511, 131-147.	1.0	8
43	<i>RCrane</i>: semi-automated RNA model building. Acta Crystallographica Section D: Biological Crystallography, 2012, 68, 985-995.	2.5	80
44	Visualizing Group II Intron Catalysis through the Stages of Splicing. Cell, 2012, 151, 497-507.	28.9	155
45	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
46	Discrete RNA Libraries from Pseudo-Torsional Space. Journal of Molecular Biology, 2012, 421, 6-26.	4.2	26
47	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
48	Visualizing the Determinants of Viral RNA Recognition by Innate Immune Sensor RIG-I. Structure, 2012, 20, 1983-1988.	3.3	73
49	Crystal structure of a group II intron in the pre-catalytic state. Nature Structural and Molecular Biology, 2012, 19, 555-557.	8.2	44
50	A new way to see RNA. Quarterly Reviews of Biophysics, 2011, 44, 433-466.	5.7	21
51	Structural Insights into RNA Recognition by RIG-I. Cell, 2011, 147, 409-422.	28.9	337
52	Mechanism of Mss116 ATPase Reveals Functional Diversity of DEAD-Box Proteins. Journal of Molecular Biology, 2011, 409, 399-414.	4.2	63
53	The Molecular Interactions That Stabilize RNA Tertiary Structure: RNA Motifs, Patterns, and Networks. Accounts of Chemical Research, 2011, 44, 1302-1311.	15.6	276
54	RNA helicases and remodeling proteins. Current Opinion in Chemical Biology, 2011, 15, 636-642.	6.1	35

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55	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
56	Tertiary architecture of the<i>Oceanobacillus iheyensis</i>group II intron. Rna, 2010, 16, 57-69.	3.5	68
57	Single-molecule analysis of Mss116-mediated group II intron folding. Nature, 2010, 467, 935-939.	27.8	73
58	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
59	Dual roles for the Mss116 cofactor during splicing of the ai5Î³ group II intron. Nucleic Acids Research, 2010, 38, 6602-6609.	14.5	30
60	Double-stranded RNA-dependent ATPase DRH-3. Journal of Biological Chemistry, 2010, 285, 25363-25371.	3.4	20
61	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
62	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
63	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
64	Protein-Facilitated Folding of Group II Intron Ribozymes. Journal of Molecular Biology, 2010, 397, 799-813.	4.2	54
65	A structural analysis of the group II intron active site and implications for the spliceosome. Rna, 2010, 16, 1-9.	3.5	127
66	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
67	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
68	Establishing a Mechanistic Basis for the Large Kinetic Steps of the NS3 Helicase. Journal of Biological Chemistry, 2009, 284, 2512-2521.	3.4	44
69	Structural insights into RNA splicing. Current Opinion in Structural Biology, 2009, 19, 260-266.	5.7	60
70	How to Drive Your Helicase in a Straight Line. Cell, 2009, 139, 458-459.	28.9	4
71	Group II Introns and Their Protein Collaborators. Springer Series in Biophysics, 2009, , 167-182.	0.4	11
72	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

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73	Structural basis for exon recognition by a group II intron. Nature Structural and Molecular Biology, 2008, 15, 1221-1222.	8.2	87
74	Translocation and Unwinding Mechanisms of RNA and DNA Helicases. Annual Review of Biophysics, 2008, 37, 317-336.	10.0	444
75	Crystal Structure of a Self-Spliced Group II Intron. Science, 2008, 320, 77-82.	12.6	441
76	A Kinetic Intermediate that Regulates Proper Folding of a Group II Intron RNA. Journal of Molecular Biology, 2008, 375, 572-580.	4.2	48
77	The GANC Tetraloop: A Novel Motif in the Group IIC Intron Structure. Journal of Molecular Biology, 2008, 383, 475-481.	4.2	31
78	Hepatitis C Viral NS3-4A Protease Activity Is Enhanced by the NS3 Helicase. Journal of Biological Chemistry, 2008, 283, 29929-29937.	3.4	95
79	RNA backbone: Consensus all-angle conformers and modular string nomenclature (an RNA Ontology) Tj ETQq1 1 0.784314 rgBT /Overlo	3.5	216
80	A conserved element that stabilizes the group II intron active site. Rna, 2008, 14, 1048-1056.	3.5	15
81	Protein-Facilitated Ribozyme Folding and Catalysis. Nucleic Acids Symposium Series, 2008, 52, 67-68.	0.3	5
82	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
83	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
84	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
85	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
86	Probing Nucleic Acids with Transition Metal Complexes. Progress in Inorganic Chemistry, 2007, , 413-475.	3.0	191
87	Alternative Roles for Metal Ions in Enzyme Catalysis and the Implications for Ribozyme Chemistry. Chemical Reviews, 2007, 107, 97-113.	47.7	285
88	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
89	Folding of group II introns: a model system for large, multidomain RNAs?. Trends in Biochemical Sciences, 2007, 32, 138-145.	7.5	98
90	Group II intron ribozymes: RNA machines that shape eukaryotic evolution. FASEB Journal, 2007, 21, A41.	0.5	0

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91	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
92	The Receptor for Branch-Site Docking within a Group II Intron Active Site. Molecular Cell, 2006, 23, 831-840.	9.7	26
93	A DEAD Protein that Activates Intron Self-Splicing without Unwinding RNA. Molecular Cell, 2006, 24, 611-617.	9.7	82
94	RNA translocation and unwinding mechanism of HCV NS3 helicase and its coordination by ATP. Nature, 2006, 439, 105-108.	27.8	343
95	A single active-site region for a group II intron. Nature Structural and Molecular Biology, 2005, 12, 626-627.	8.2	66
96	Linking the group II intron catalytic domains: tertiary contacts and structural features of domain 3. EMBO Journal, 2005, 24, 3906-3916.	7.8	37
97	Capping by Branching: A New Ribozyme Makes Tiny Lariats. Science, 2005, 309, 1530-1531.	12.6	7
98	Choosing between DNA and RNA: the polymer specificity of RNA helicase NPH-II. Nucleic Acids Research, 2005, 33, 644-649.	14.5	25
99	An obligate intermediate along the slow folding pathway of a group II intron ribozyme. Nucleic Acids Research, 2005, 33, 6674-6687.	14.5	73
100	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
101	Backbone tracking by the SF2 helicase NPH-II. Nature Structural and Molecular Biology, 2004, 11, 526-530.	8.2	69
102	Periodic cycles of RNA unwinding and pausing by hepatitis C virus NS3 helicase. Nature, 2004, 430, 476-480.	27.8	121
103	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
104	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
105	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
106	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
107	The Pathway for DNA Recognition and RNA Integration by a Group II Intron Retrotransposon. Molecular Cell, 2003, 11, 795-805.	9.7	45
108	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

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109	<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
110	Productive folding to the native state by a group II intron ribozyme. Journal of Molecular Biology, 2002, 315, 297-310.	4.2	96
111	Group II introns: highly specific endonucleases with modular structures and diverse catalytic functions. Methods, 2002, 28, 323-335.	3.8	27
112	Metal ions in the structure and function of RNA. Journal of Biological Inorganic Chemistry, 2002, 7, 679-690.	2.6	328
113	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
114	Active Disruption of an RNA-Protein Interaction by a DExH/D RNA Helicase. Science, 2001, 291, 121-125.	12.6	280
115	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
116	Metal ion binding sites in a group II intron core. Nature Structural Biology, 2000, 7, 1111-1116.	9.7	125
117	The DExH protein NPH-II is a processive and directional motor for unwinding RNA. Nature, 2000, 403, 447-451.	27.8	209
118	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
119	[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
120	Calculating the electrostatic properties of RNA provides new insights into molecular interactions and function. Nature Structural Biology, 1999, 6, 1055-1061.	9.7	196
121	Antagonistic substrate binding by a group II intron ribozyme. Journal of Molecular Biology, 1999, 291, 15-27.	4.2	21
122	Site-Specific Labeling of RNA with Fluorophores and Other Structural Probes. Methods, 1999, 18, 60-70.	3.8	64
123	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
124	Group II intron splicing in vivo by first-step hydrolysis. Nature, 1998, 391, 915-918.	27.8	94
125	The architectural organization and mechanistic function of group II intron structural elements. Current Opinion in Structural Biology, 1998, 8, 301-308.	5.7	144
126	Ribozyme Catalysis from the Major Groove of Group II Intron Domain 5. Molecular Cell, 1998, 1, 433-441.	9.7	82

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127	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
128	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
129	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
130	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
131	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
132	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
133	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
134	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
135	Inside an intron invasion. Nature, 1996, 381, 280-281.	27.8	14
136	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
137	RNA folding. Current Opinion in Structural Biology, 1995, 5, 303-310.	5.7	48
138	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
139	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
140	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
141	RNA substrate binding site in the catalytic core of the Tetrahymena ribozyme. Nature, 1992, 358, 123-128.	27.8	215
142	Ribozyme recognition of RNA by tertiary interactions with specific ribose 2â€²-OH groups. Nature, 1991, 350, 628-631.	27.8	196
143	Shape-selective targeting of DNA by phenanthrenequinone diiminerhodium(III) photocleaving agents. Journal of the American Chemical Society, 1989, 111, 4520-4522.	13.7	100
144	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

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145	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