Neocles B Leontis

List of Publications by Year
in descending order

94 papers	9,395 citations	61984 43 h-index	42399 92 g-index
103 all docs	103 docs citations	103 times ranked	7105 citing authors

#	Article	IF	Citations
1	The OBO Foundry: coordinated evolution of ontologies to support biomedical data integration. Nature Biotechnology, 2007, 25, 1251-1255.	17.5	1,955
2	Geometric nomenclature and classification of RNA base pairs. Rna, 2001, 7, 499-512.	3.5	877
3	The non-Watson-Crick base pairs and their associated isostericity matrices. Nucleic Acids Research, 2002, 30, 3497-3531.	14.5	679
4	The building blocks and motifs of RNA architecture. Current Opinion in Structural Biology, 2006, 16, 279-287.	5.7	315
5	Analysis of RNA motifs. Current Opinion in Structural Biology, 2003, 13, 300-308.	5.7	274
6	TectoRNA: modular assembly units for the construction of RNA nano-objects. Nucleic Acids Research, 2001, 29, 455-463.	14.5	242
7	<i>RNA-Puzzles</i>: A CASP-like evaluation of RNA three-dimensional structure prediction. Rna, 2012, 18, 610-625.	3.5	241
8	Tools for the automatic identification and classification of RNA base pairs. Nucleic Acids Research, 2003, 31, 3450-3460.	14.5	240
9	FR3D: finding local and composite recurrent structural motifs in RNA 3D structures. Journal of Mathematical Biology, 2007, 56, 215-252.	1.9	231
10	Recurrent structural RNA motifs, Isostericity Matrices and sequence alignments. Nucleic Acids Research, 2005, 33, 2395-2409.	14.5	210
11	The Nucleic Acid Database: new features and capabilities. Nucleic Acids Research, 2014, 42, D114-D122.	14.5	194
12	Tecto-RNA: One-Dimensional Self-Assembly through Tertiary Interactions. Angewandte Chemie - International Edition, 2000, 39, 2521-2524.	13.8	190
13	Frequency and isostericity of RNA base pairs. Nucleic Acids Research, 2009, 37, 2294-2312.	14.5	190
14	A common motif organizes the structure of multi-helix loops in 16 S and 23 S ribosomal RNAs. Journal of Molecular Biology, 1998, 283, 571-583.	4.2	175
15	Classification and energetics of the base-phosphate interactions in RNA. Nucleic Acids Research, 2009, 37, 4898-4918.	14.5	156
16	Automated classification of RNA 3D motifs and the RNA 3D Motif Atlas. Rna, 2013, 19, 1327-1340.	3.5	131
17	Conserved geometrical base-pairing patterns in RNA. Quarterly Reviews of Biophysics, 1998, 31, 399-455.	5.7	130
18	Controlling RNA self-assembly to form filaments. Nucleic Acids Research, 2006, 34, 1381-1392.	14.5	123

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19	Stability and structure of three-way DNA junctions containing unpaired nucleotides. Nucleic Acids Research, 1991, 19, 759-766.	14.5	117
20	Tertiary structure and function of an RNA motif required for plant vascular entry to initiate systemic trafficking. EMBO Journal, 2007, 26, 3836-3846.	7.8	111
21	Cationic 5,10,15,20-Tetrakis(N-methylpyridinium-4-yl)porphyrin Fully Intercalates at 5â€²-CG-3â€² Steps of Duplex DNA in Solutionâ€. Biochemistry, 1999, 38, 15425-15437.	2.5	109
22	Non-Watson-Crick Basepairing and Hydration in RNA Motifs: Molecular Dynamics of 5S rRNA Loop E. Biophysical Journal, 2003, 84, 3564-3582.	0.5	108
23	The 5S rRNA loop E: Chemical probing and phylogenetic data versus crystal structure. Rna, 1998, 4, 1134-1153.	3.5	107
24	RNA nanotechnology for computer design and <i>in vivo</i> computation. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20120310.	3.4	92
25	RNAML: A standard syntax for exchanging RNA information. Rna, 2002, 8, 707-717.	3.5	91
26	Hinge-Like Motions in RNA Kink-Turns: The Role of the Second A-Minor Motif and Nominally Unpaired Bases. Biophysical Journal, 2005, 88, 3466-3485.	0.5	91
27	Tertiary Structural and Functional Analyses of a Viroid RNA Motif by Isostericity Matrix and Mutagenesis Reveal Its Essential Role in Replication. Journal of Virology, 2006, 80, 8566-8581.	3.4	80
28	Nonredundant 3D Structure Datasets for RNA Knowledge Extraction and Benchmarking. Nucleic Acids and Molecular Biology, 2012, , 281-298.	0.2	80
29	Comprehensive survey and geometric classification of base triples in RNA structures. Nucleic Acids Research, 2012, 40, 1407-1423.	14.5	79
30	Molecular dynamics of the frame-shifting pseudoknot from beet western yellows virus: the role of non-Watson-Crick base-pairing, ordered hydration, cation binding and base mutations on stability and unfolding 1 1Edited by J. Doudna. Journal of Molecular Biology, 2001, 313, 1073-1091.	4.2	70
31	Unique Tertiary and Neighbor Interactions Determine Conservation Patterns of Cis Watsonâ€“Crick A/G Base-pairs. Journal of Molecular Biology, 2003, 330, 967-978.	4.2	69
32	A Three-Dimensional RNA Motif in<i>Potato spindle tuber viroid</i>Mediates Trafficking from Palisade Mesophyll to Spongy Mesophyll in<i>Nicotiana benthamiana</i>Â. Plant Cell, 2011, 23, 258-272.	6.6	69
33	Annotation of tertiary interactions in RNA structures reveals variations and correlations. Rna, 2008, 14, 2465-2477.	3.5	63
34	Specific RNA Self-Assembly with Minimal Paranemic Motifs. Journal of the American Chemical Society, 2008, 130, 93-102.	13.7	60
35	The RNA Ontology Consortium: An open invitation to the RNA community. Rna, 2006, 12, 533-541.	3.5	59
36	Quantum Chemical Studies of Nucleic Acids: Can We Construct a Bridge to the RNA Structural Biology and Bioinformatics Communities?. Journal of Physical Chemistry B, 2010, 114, 15723-15741.	2.6	57

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37	WebFR3D--a server for finding, aligning and analyzing recurrent RNA 3D motifs. Nucleic Acids Research, 2011, 39, W50-W55.	14.5	54
38	R3D Align: global pairwise alignment of RNA 3D structures using local superpositions. Bioinformatics, 2010, 26, 2689-2697.	4.1	50
39	Structural and evolutionary classification of G/U wobble basepairs in the ribosome. Nucleic Acids Research, 2006, 34, 1326-1341.	14.5	49
40	Ribosomal RNA Kink-turn Motifâ€"A Flexible Molecular Hinge. Journal of Biomolecular Structure and Dynamics, 2004, 22, 183-193.	3.5	48
41	Long-Residency Hydration, Cation Binding, and Dynamics of Loop E/Helix IV rRNA-L25 Protein Complex. Biophysical Journal, 2004, 87, 3397-3412.	0.5	48
42	Relative stabilities of DNA three-way, four-way and five-way junctions (multi-helix junction loops): unpaired nucleotides can be stabilizing or destabilizing. Nucleic Acids Research, 1995, 23, 2212-2222.	14.5	47
43	TokenRNA: A New Type of Sequenceâ€Specific, Labelâ€Free Fluorescent Biosensor for Folded RNA Molecules. ChemBioChem, 2008, 9, 1902-1905.	2.6	45
44	Identifying novel sequence variants of RNA 3D motifs. Nucleic Acids Research, 2015, 43, 7504-7520.	14.5	43
45	Effects of tRNA-intron structure on cleavage of precursor tRNAs by RNase P fromSaccharomyces cerevisiae. Nucleic Acids Research, 1988, 16, 2537-2552.	14.5	38
46	Molecular dynamics simulations suggest that RNA three-way junctions can act as flexible RNA structural elements in the ribosome. Nucleic Acids Research, 2010, 38, 6247-6264.	14.5	37
47	The Thermodynamics of Formation of a Three-Strand, DNA Three-Way Junction Complex. Biochemistry, 1994, 33, 6828-6833.	2.5	36
48	Effects of Unpaired Bases on the Conformation and Stability of Three-Arm DNA Junctions. Biochemistry, 1994, 33, 3660-3667.	2.5	36
49	The Annotation of RNA Motifs. Comparative and Functional Genomics, 2002, 3, 518-524.	2.0	35
50	Generating New Specific RNA Interaction Interfaces Using C-Loops. Journal of the American Chemical Society, 2006, 128, 16131-16137.	13.7	34
51	The RNA structure alignment ontology. Rna, 2009, 15, 1623-1631.	3.5	34
52	An introduction to recurrent nucleotide interactions in RNA. Wiley Interdisciplinary Reviews RNA, 2015, 6, 17-45.	6.4	31
53	The RNA 3D Motif Atlas: Computational methods for extraction, organization and evaluation of RNA motifs. Methods, 2016, 103, 99-119.	3.8	31
54	NMR evidence for dynamic secondary structure in helixes II and III of the 5S RNA of Escherichia coli. Biochemistry, 1986, 25, 3916-3925.	2.5	30

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55	Effect of magnesium ion on the structure of the 5S RNA from Escherichia coli. An imino proton magnetic resonance study of the helix I, IV, and V regions of the molecule. Biochemistry, 1986, 25, 7386-7392.	2.5	30
56	A Model for the Solution Structure of a Branched, Three-strand DNA Complex. Journal of Biomolecular Structure and Dynamics, 1993, 11, 215-223.	3.5	30
57	Engineering cooperative tectoâ€“RNA complexes having programmable stoichiometries. Nucleic Acids Research, 2011, 39, 2903-2917.	14.5	30
58	Sharing and archiving nucleic acid structure mapping data. Rna, 2011, 17, 1204-1212.	3.5	28
59	A three-dimensional RNA motif mediates directional trafficking of Potato spindle tuber viroid from epidermal to palisade mesophyll cells in Nicotiana benthamiana. PLoS Pathogens, 2019, 15, e1008147.	4.7	28
60	RNA 3-dimensional structural motifs as a critical constraint of viroid RNA evolution. PLoS Pathogens, 2018, 14, e1006801.	4.7	27
61	Noncanonical Hydrogen Bonding in Nucleic Acids. Benchmark Evaluation of Key Baseâ€“Phosphate Interactions in Folded RNA Molecules Using Quantum-Chemical Calculations and Molecular Dynamics Simulations. Journal of Physical Chemistry A, 2011, 115, 11277-11292.	2.5	26
62	The RNA Ontology (RNAO): An ontology for integrating RNA sequence and structure data. Applied Ontology, 2011, 6, 53-89.	2.0	23
63	Isosteric and Nonisosteric Base Pairs in RNA Motifs: Molecular Dynamics and Bioinformatics Study of the Sarcinâ€“Ricin Internal Loop. Journal of Physical Chemistry B, 2013, 117, 14302-14319.	2.6	23
64	STRUCTURE-SPECIFIC BINDING and PHOTOSENSITIZED CLEAVAGE OF BRANCHED DNA THREE-WAY JUNCTION COMPLEXES BY CATIONIC PORPHYRINS. Photochemistry and Photobiology, 1994, 59, 515-528.	2.5	22
65	Hybrid-hybrid matrix structural refinement of a DNA three-way junction from 3D NOESY-NOESY. Journal of Biomolecular NMR, 1999, 14, 209-221.	2.8	21
66	Self-assembled complexes of oligopeptides and metalloporphyrins: measurements of the reorganization and electronic interaction energies for photoinduced electron-transfer reactions. Biophysical Chemistry, 2000, 83, 121-140.	2.8	21
67	JAR3D Webserver: Scoring and aligning RNA loop sequences to known 3D motifs. Nucleic Acids Research, 2016, 44, W320-W327.	14.5	20
68	Computational Simulation of the Docking of Prochlorothrix hollandica Plastocyanin to Photosystem I: Modeling the Electron Transfer Complex. Biophysical Journal, 2002, 82, 3305-3313.	0.5	19
69	[10] Preparation of 5S RNA-related materials for nuclear magnetic resonance and crystallography studies. Methods in Enzymology, 1988, 164, 158-174.	1.0	18
70	Functional analysis reveals G/U pairs critical for replication and trafficking of an infectious non-coding viroid RNA. Nucleic Acids Research, 2020, 48, 3134-3155.	14.5	18
71	Imino proton exchange in the 5S RNA of Escherichia coli and its complex with protein L25 at 490 MHz. Biochemistry, 1986, 25, 5736-5744.	2.5	17
72	Structure and dynamics of ribosomal RNA. Current Opinion in Structural Biology, 1998, 8, 294-300.	5.7	17

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73	Self-assembled RNA nanostructures. Science, 2014, 345, 732-733.	12.6	17
74	An RNA-centric historical narrative around the Protein Data Bank. Journal of Biological Chemistry, 2021, 296, 100555.	3.4	17
75	Atomic Glimpses on a Billion-Year-Old Molecular Machine. Angewandte Chemie - International Edition, 2000, 39, 1587-1591.	13.8	15
76	RNA 3D Structural Motifs: Definition, Identification, Annotation, and Database Searching. Springer Series in Biophysics, 2009, , 1-26.	0.4	15
77	Allelic RNA Motifs in Regulating Systemic Trafficking of Potato Spindle Tuber Viroid. Viruses, 2018, 10, 160.	3.3	15
78	How to fold and protect mitochondrial ribosomal RNA with fewer guanines. Nucleic Acids Research, 2018, 46, 10946-10968.	14.5	14
79	A small angle X-ray scattering study of a fragment derived fromE. coli5S RNA. Nucleic Acids Research, 1984, 12, 2193-2203.	14.5	13
80	Solution conformation of a bulged adenosine base in an RNA duplex by relaxation matrix refinement11Edited by I. Tinoco. Journal of Molecular Biology, 2000, 300, 1143-1154.	4.2	13
81	Ribostral: an RNA 3D alignment analyzer and viewer based on basepair isostericities. Bioinformatics, 2006, 22, 2168-2170.	4.1	13
82	R3D Align web server for global nucleotide to nucleotide alignments of RNA 3D structures. Nucleic Acids Research, 2013, 41, W15-W21.	14.5	12
83	Conference Scene: Advances in RNA nanotechnology promise to transform medicine. Nanomedicine, 2013, 8, 1051-1054.	3.3	9
84	[8] Structural studies of DNA three-way junctions. Methods in Enzymology, 1995, 261, 183-207.	1.0	6
85	A pyrene dihydrodioxin with pyridinium â€œarmsâ€ A photochemically active DNA cleaving agent with unusual duplex stabilizing and electron trapping properties. Journal of Photochemistry and Photobiology A: Chemistry, 2015, 307-308, 131-146.	3.9	6
86	R3D-2-MSA: the RNA 3D structure-to-multiple sequence alignment server. Nucleic Acids Research, 2015, 43, W15-W23.	14.5	4
87	Context-sensitivity of isosteric substitutions of non-Watsonâ€“Crick basepairs in recurrent RNA 3D motifs. Nucleic Acids Research, 2021, 49, 9574-9593.	14.5	4
88	The RNA Ontology (RNAO): An ontology for integrating RNA sequence and structure data. Nature Precedings, 2009, , .	0.1	3
89	15. Analyzing, searching, and annotating recurrent RNA three-dimensional motifs. , 2013, , 363-398.		2
90	Understanding Sequence Variability of RNA Motifs Using Geometric Search and IsoDiscrepancy Matrices. , 2009, , .		1

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91	Meeting report of the RNA Ontology Consortium January 8-9, 2011. Standards in Genomic Sciences, 2011, 4, 252-256.	1.5	1
92	Three-Dimensional NOESY-NOESY Hybrid-Hybrid Matrix Refinement of a DNA Three-Way Junction. ACS Symposium Series, 1997, , 167-180.	0.5	0
93	Quantum Chemical Studies of Recurrent Interactions in RNA 3D Motifs. Nucleic Acids and Molecular Biology, 2012, , 239-279.	0.2	0
94	The Control of DNA Structure. , 1997, , 95-104.		0