Anton S Petrov

List of Publications by Year
in descending order

56 papers	2,926 citations	136950 32 h-index	182427 51 g-index
60 all docs	60 docs citations	60 times ranked	2782 citing authors

#	Article	IF	Citations
1	History of the ribosome and the origin of translation. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15396-15401.	7.1	224
2	Evolution of the ribosome at atomic resolution. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 10251-10256.	7.1	172
3	RNAcentral 2021: secondary structure integration, improved sequence search and new member databases. Nucleic Acids Research, 2021, 49, D212-D220.	14.5	160
4	Secondary Structures of rRNAs from All Three Domains of Life. PLoS ONE, 2014, 9, e88222.	2.5	122
5	Root of the Tree: The Significance, Evolution, and Origins of the Ribosome. Chemical Reviews, 2020, 120, 4848-4878.	47.7	116
6	RiboVision suite for visualization and analysis of ribosomes. Faraday Discussions, 2014, 169, 195-207.	3.2	106
7	Packaging Double-Helical DNA into Viral Capsids: Structures, Forces, and Energetics. Biophysical Journal, 2008, 95, 497-502.	0.5	105
8	YUP:Â A Molecular Simulation Program for Coarse-Grained and Multiscaled Models. Journal of Chemical Theory and Computation, 2006, 2, 529-540.	5.3	98
9	Structural and Thermodynamic Principles of Viral Packaging. Structure, 2007, 15, 21-27.	3.3	88
10	Collision cross section calibrants for negative ion mode traveling wave ion mobility-mass spectrometry. Analyst, The, 2015, 140, 6853-6861.	3.5	86
11	Selective incorporation of proteinaceous over nonproteinaceous cationic amino acids in model prebiotic oligomerization reactions. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 16338-16346.	7.1	81
12	Bidentate RNAâ€“magnesium clamps: On the origin of the special role of magnesium in RNA folding. Rna, 2011, 17, 291-297.	3.5	79
13	RNA Folding and Catalysis Mediated by Iron (II). PLoS ONE, 2012, 7, e38024.	2.5	79
14	Secondary structure and domain architecture of the 23S and 5S rRNAs. Nucleic Acids Research, 2013, 41, 7522-7535.	14.5	78
15	The conformation of double-stranded DNA inside bacteriophages depends on capsid size and shape. Journal of Structural Biology, 2007, 160, 241-248.	2.8	76
16	RNA with iron(II) as a cofactor catalyses electron transfer. Nature Chemistry, 2013, 5, 525-528.	13.6	68
17	Frozen in Time: The History of Proteins. Molecular Biology and Evolution, 2017, 34, 1252-1260.	8.9	67
18	Mutually stabilizing interactions between proto-peptides and RNA. Nature Communications, 2020, 11, 3137.	12.8	61

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19	Translation: The Universal Structural Core of Life. Molecular Biology and Evolution, 2018, 35, 2065-2076.	8.9	59
20	R2DT is a framework for predicting and visualising RNA secondary structure using templates. Nature Communications, 2021, 12, 3494.	12.8	58
21	Structural Patching Fosters Divergence of Mitochondrial Ribosomes. Molecular Biology and Evolution, 2019, 36, 207-219.	8.9	56
22	Packaging of DNA by Bacteriophage Epsilon15: Structure, Forces, and Thermodynamics. Structure, 2007, 15, 807-812.	3.3	52
23	Water-Mediated Magnesium-Guanine Interactions. Journal of Physical Chemistry B, 2002, 106, 3294-3300.	2.6	51
24	Surveying the sequence diversity of model prebiotic peptides by mass spectrometry. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E7652-E7659.	7.1	51
25	Multiple prebiotic metals mediate translation. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 12164-12169.	7.1	48
26	G-Quadruplexes in Human Ribosomal RNA. Journal of Molecular Biology, 2019, 431, 1940-1955.	4.2	48
27	Molecular paleontology: a biochemical model of the ancestral ribosome. Nucleic Acids Research, 2013, 41, 3373-3385.	14.5	45
28	Folding, Assembly, and Persistence: The Essential Nature and Origins of Biopolymers. Journal of Molecular Evolution, 2018, 86, 598-610.	1.8	44
29	Calculations of Magnesiumâ^'Nucleic Acid Site Binding in Solution. Journal of Physical Chemistry B, 2004, 108, 6072-6081.	2.6	42
30	RNAâ€“Magnesiumâ€“Protein Interactions in Large Ribosomal Subunit. Journal of Physical Chemistry B, 2012, 116, 8113-8120.	2.6	42
31	Viral assembly: a molecular modeling perspective. Physical Chemistry Chemical Physics, 2009, 11, 10553.	2.8	40
32	Computational study of dimethyl phosphate anion and its complexes with water, magnesium, and calcium. International Journal of Quantum Chemistry, 2005, 102, 645-655.	2.0	39
33	The Central Symbiosis of Molecular Biology: Molecules in Mutualism. Journal of Molecular Evolution, 2017, 85, 8-13.	1.8	32
34	A blueprint for academic laboratories to produce SARS-CoV-2 quantitative RT-PCR test kits. Journal of Biological Chemistry, 2020, 295, 15438-15453.	3.4	31
35	The Role of DNA Twist in the Packaging of Viral Genomes. Biophysical Journal, 2008, 94, L38-L40.	0.5	29
36	Role of DNAâ€“DNA interactions on the structure and thermodynamics of bacteriophages Lambda and P4. Journal of Structural Biology, 2011, 174, 137-146.	2.8	25

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37	Iron mediates catalysis of nucleic acid processing enzymes: support for Fe(II) as a cofactor before the great oxidation event. Nucleic Acids Research, 2017, 45, 3634-3642.	14.5	25
38	Integration Host Factor (IHF) Dictates the Structure of Polyamine-DNA Condensates: Implications for the Role of IHF in the Compaction of Bacterial Chromatin. Biochemistry, 2009, 48, 667-675.	2.5	24
39	Supersized Ribosomal RNA Expansion Segments in Asgard Archaea. Genome Biology and Evolution, 2020, 12, 1694-1710.	2.5	24
40	Ribosomal small subunit domains radiate from a central core. Scientific Reports, 2016, 6, 20885.	3.3	21
41	The Ancient Heart of the Ribosomal Large Subunit: A Response to Caetano-Anolles. Journal of Molecular Evolution, 2015, 80, 166-170.	1.8	18
42	Imprint of Ancient Evolution on rRNA Folding. Biochemistry, 2016, 55, 4603-4613.	2.5	18
43	Fold Evolution before LUCA: Common Ancestry of SH3 Domains and OB Domains. Molecular Biology and Evolution, 2021, 38, 5134-5143.	8.9	17
44	The Triplex-Hairpin Transition in Cytosine-Rich DNA. Biophysical Journal, 2004, 87, 3954-3973.	0.5	15
45	Characterization of DNA conformation inside bacterial viruses. Physical Review E, 2009, 80, 021914.	2.1	14
46	Eukaryotic Ribosomal Expansion Segments as Antimicrobial Targets. Biochemistry, 2017, 56, 5288-5299.	2.5	12
47	Adaptation and Exaptation: From Small Molecules to Feathers. Journal of Molecular Evolution, 2022, 90, 166-175.	1.8	12
48	Effects of pulling forces, osmotic pressure, condensing agents and viscosity on the thermodynamics and kinetics of DNA ejection from bacteriophages to bacterial cells: a computational study. Journal of Physics Condensed Matter, 2013, 25, 115101.	1.8	10
49	ProteoVision: web server for advanced visualization of ribosomal proteins. Nucleic Acids Research, 2021, 49, W578-W588.	14.5	10
50	The proto-Nucleic Acid Builder: a software tool for constructing nucleic acid analogs. Nucleic Acids Research, 2021, 49, 79-89.	14.5	10
51	Circular Permutation Obscures Universality of a Ribosomal Protein. Journal of Molecular Evolution, 2018, 86, 581-592.	1.8	8
52	TwinCons: Conservation score for uncovering deep sequence similarity and divergence. PLoS Computational Biology, 2021, 17, e1009541.	3.2	8
53	Computational Approaches to Modeling Viral Structure and Assembly. Methods in Enzymology, 2011, 487, 513-543.	1.0	7
54	Role of the Electrostatic Interactions in the Genome Packaging and Ejection of DNA From Bacteriophages. Biophysical Journal, 2010, 98, 655a.	0.5	0

#	Article	IF	Citations
55	Understanding the Early Major Transitions in Evolutionary History Part 1: Stages in the Emergence of Complex Life. , 2021, 53, .		0
56	Understanding the Early Major Transitions in Evolutionary History Part 2: Ancient Evolution of Biological Systems and the Biosphere. , 2021, 53, .		0