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	Adaptation and Exaptation: From Small Molecules to Feathers. Journal of Molecular Evolution, 2022, 90, 166-175.	1.8	12
2	RNAcentral 2021: secondary structure integration, improved sequence search and new member databases. Nucleic Acids Research, 2021, 49, D212-D220.	14.5	160
3	Understanding the Early Major Transitions in Evolutionary History Part 1: Stages in the Emergence of Complex Life. , 2021, 53, .		0
4	Understanding the Early Major Transitions in Evolutionary History Part 2: Ancient Evolution of Biological Systems and the Biosphere. , 2021, 53, .		0
5	ProteoVision: web server for advanced visualization of ribosomal proteins. Nucleic Acids Research, 2021, 49, W578-W588.	14.5	10
6	R2DT is a framework for predicting and visualising RNA secondary structure using templates. Nature Communications, 2021, 12, 3494.	12.8	58
7	Fold Evolution before LUCA: Common Ancestry of SH3 Domains and OB Domains. Molecular Biology and Evolution, 2021, 38, 5134-5143.	8.9	17
8	The proto-Nucleic Acid Builder: a software tool for constructing nucleic acid analogs. Nucleic Acids Research, 2021, 49, 79-89.	14.5	10
9	TwinCons: Conservation score for uncovering deep sequence similarity and divergence. PLoS Computational Biology, 2021, 17, e1009541.	3.2	8
10	Supersized Ribosomal RNA Expansion Segments in Asgard Archaea. Genome Biology and Evolution, 2020, 12, 1694-1710.	2.5	24
11	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
12	Root of the Tree: The Significance, Evolution, and Origins of the Ribosome. Chemical Reviews, 2020, 120, 4848-4878.	47.7	116
13	Mutually stabilizing interactions between proto-peptides and RNA. Nature Communications, 2020, 11, 3137.	12.8	61
14	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
15	G-Quadruplexes in Human Ribosomal RNA. Journal of Molecular Biology, 2019, 431, 1940-1955.	4.2	48
16	Structural Patching Fosters Divergence of Mitochondrial Ribosomes. Molecular Biology and Evolution, 2019, 36, 207-219.	8.9	56
17	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
18	Folding, Assembly, and Persistence: The Essential Nature and Origins of Biopolymers. Journal of Molecular Evolution, 2018, 86, 598-610.	1.8	44

#	Article	IF	Citations
19	Circular Permutation Obscures Universality of a Ribosomal Protein. Journal of Molecular Evolution, 2018, 86, 581-592.	1.8	8
20	Translation: The Universal Structural Core of Life. Molecular Biology and Evolution, 2018, 35, 2065-2076.	8.9	59
21	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
22	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
23	Eukaryotic Ribosomal Expansion Segments as Antimicrobial Targets. Biochemistry, 2017, 56, 5288-5299.	2.5	12
24	The Central Symbiosis of Molecular Biology: Molecules in Mutualism. Journal of Molecular Evolution, 2017, 85, 8-13.	1.8	32
25	Frozen in Time: The History of Proteins. Molecular Biology and Evolution, 2017, 34, 1252-1260.	8.9	67
26	Ribosomal small subunit domains radiate from a central core. Scientific Reports, 2016, 6, 20885.	3.3	21
27	Imprint of Ancient Evolution on rRNA Folding. Biochemistry, 2016, 55, 4603-4613.	2.5	18
28	Collision cross section calibrants for negative ion mode traveling wave ion mobility-mass spectrometry. Analyst, The, 2015, 140, 6853-6861.	3.5	86
29	The Ancient Heart of the Ribosomal Large Subunit: A Response to Caetano-Anolles. Journal of Molecular Evolution, 2015, 80, 166-170.	1.8	18
30	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
31	Secondary Structures of rRNAs from All Three Domains of Life. PLoS ONE, 2014, 9, e88222.	2.5	122
32	RiboVision suite for visualization and analysis of ribosomes. Faraday Discussions, 2014, 169, 195-207.	3.2	106
33	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
34	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
35	RNA with iron(II) as a cofactor catalyses electron transfer. Nature Chemistry, 2013, 5, 525-528.	13.6	68
36	Molecular paleontology: a biochemical model of the ancestral ribosome. Nucleic Acids Research, 2013, 41, 3373-3385.	14.5	45

#	Article	IF	Citations
37	Secondary structure and domain architecture of the 23S and 5S rRNAs. Nucleic Acids Research, 2013, 41, 7522-7535.	14.5	78
38	RNAâ€"Magnesiumâ€"Protein Interactions in Large Ribosomal Subunit. Journal of Physical Chemistry B, 2012, 116, 8113-8120.	2.6	42
39	RNA Folding and Catalysis Mediated by Iron (II). PLoS ONE, 2012, 7, e38024.	2.5	79
40	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
41	Bidentate RNAâ€"magnesium clamps: On the origin of the special role of magnesium in RNA folding. Rna, 2011, 17, 291-297.	3.5	79
42	Computational Approaches to Modeling Viral Structure and Assembly. Methods in Enzymology, 2011, 487, 513-543.	1.0	7
43	Role of the Electrostatic Interactions in the Genome Packaging and Ejection of DNA From Bacteriophages. Biophysical Journal, 2010, 98, 655a.	0.5	0
44	Characterization of DNA conformation inside bacterial viruses. Physical Review E, 2009, 80, 021914.	2.1	14
45	Viral assembly: a molecular modeling perspective. Physical Chemistry Chemical Physics, 2009, 11, 10553.	2.8	40
46	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
47	The Role of DNA Twist in the Packaging of Viral Genomes. Biophysical Journal, 2008, 94, L38-L40.	0.5	29
48	Packaging Double-Helical DNA into Viral Capsids: Structures, Forces, and Energetics. Biophysical Journal, 2008, 95, 497-502.	0.5	105
49	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
50	Structural and Thermodynamic Principles of Viral Packaging. Structure, 2007, 15, 21-27.	3.3	88
51	Packaging of DNA by Bacteriophage Epsilon15: Structure, Forces, and Thermodynamics. Structure, 2007, 15, 807-812.	3.3	52
52	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
53	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
54	Calculations of Magnesiumâ ̂'Nucleic Acid Site Binding in Solution. Journal of Physical Chemistry B, 2004, 108, 6072-6081.	2.6	42

#	Article	IF	Citations
55	The Triplex-Hairpin Transition in Cytosine-Rich DNA. Biophysical Journal, 2004, 87, 3954-3973.	0.5	15
56	Water-Mediated Magnesium-Guanine Interactions. Journal of Physical Chemistry B, 2002, 106, 3294-3300.	2.6	51