John J Perona

List of Publications by Year in descending order

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74 papers	4,087 citations	109321 35 h-index	118850 62 g-index
88 all docs	88 docs citations	88 times ranked	3591 citing authors

#	Article	IF	Citations
1	Sulfur Assimilation and Trafficking in Methanogens. Grand Challenges in Biology and Biotechnology, 2018, , 371-408.	2.4	6
2	Promiscuity of methionine salvage pathway enzymes in Methanocaldococcus jannaschii. Microbiology (United Kingdom), 2018, 164, 969-981.	1.8	10
3	Persulfide Formation Mediates Cysteine and Homocysteine Biosynthesis in Methanosarcina acetivorans. Biochemistry, 2017, 56, 1051-1061.	2.5	7
4	Improving target amino acid selectivity in a permissive aminoacyl tRNA synthetase through counter-selection. Organic and Biomolecular Chemistry, 2017, 15, 3603-3610.	2.8	31
5	Efficient Sulfide Assimilation in Methanosarcina acetivorans Is Mediated by the MA1715 Protein. Journal of Bacteriology, 2016, 198, 1974-1983.	2.2	16
6	Improved Incorporation of Noncanonical Amino Acids by an Engineered tRNA^{Tyr} Suppressor. Biochemistry, 2016, 55, 618-628.	2.5	31
7	Homocysteine Is Biosynthesized from Aspartate Semialdehyde and Hydrogen Sulfide in Methanogenic Archaea. Biochemistry, 2015, 54, 3129-3132.	2.5	18
8	Novel proteins for homocysteine biosynthesis in anaerobic microorganisms. Molecular Microbiology, 2014, 94, 1330-1342.	2.5	16
9	Recoding Aminoacyl-tRNA Synthetases for Synthetic Biology by Rational Protein-RNA Engineering. ACS Chemical Biology, 2014, 9, 2761-2766.	3.4	10
10	Coevolution of Specificity Determinants in Eukaryotic Glutamyl- and Glutaminyl-tRNA Synthetases. Journal of Molecular Biology, 2014, 426, 3619-3633.	4.2	15
11	Determinants for tRNA-Dependent Pretransfer Editing in the Synthetic Site of Isoleucyl-tRNA Synthetase. Biochemistry, 2014, 53, 6189-6198.	2.5	27
12	Synthetic and Editing Mechanisms of Aminoacyl-tRNA Synthetases. Topics in Current Chemistry, 2013, 344, 1-41.	4.0	104
13	Structural and Mechanistic Basis for Enhanced Translational Efficiency by 2-Thiouridine at the tRNA Anticodon Wobble Position. Journal of Molecular Biology, 2013, 425, 3888-3906.	4.2	66
14	Structural conservation of an ancient tRNA sensor in eukaryotic glutaminyl-tRNA synthetase. Nucleic Acids Research, 2012, 40, 3723-3731.	14.5	14
15	Structural Diversity and Protein Engineering of the Aminoacyl-tRNA Synthetases. Biochemistry, 2012, 51, 8705-8729.	2.5	87
16	Kinetic Partitioning between Synthetic and Editing Pathways in Class I Aminoacyl-tRNA Synthetases Occurs at Both Pre-transfer and Post-transfer Hydrolytic Steps. Journal of Biological Chemistry, 2012, 287, 25381-25394.	3.4	48
17	Kinetics of tRNA folding monitored by aminoacylation. Rna, 2012, 18, 569-580.	3.5	33
18	The Energetic Contribution of Induced Electrostatic Asymmetry to DNA Bending by a Site-Specific Protein. Journal of Molecular Biology, 2011, 406, 285-312.	4.2	18

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19	Two-Step Aminoacylation of tRNA without Channeling in Archaea. Journal of Molecular Biology, 2011, 411, 854-869.	4.2	14
20	Heat Maps for Intramolecular Communication in an RNP Enzyme Encoding Glutamine. Structure, 2011, 19, 386-396.	3.3	20
21	Formation of m 2 G6 in Methanocaldococcus jannaschii tRNA catalyzed by the novel methyltransferase Trm14. Nucleic Acids Research, 2011, 39, 7641-7655.	14.5	33
22	Stereochemical mechanisms of tRNA methyltransferases. FEBS Letters, 2010, 584, 278-286.	2.8	36
23	Mechanism of N-methylation by the tRNA m1G37 methyltransferase Trm5. Rna, 2010, 16, 2484-2492.	3.5	35
24	Partitioning of tRNA-dependent Editing between Pre- and Post-transfer Pathways in Class I Aminoacyl-tRNA Synthetases. Journal of Biological Chemistry, 2010, 285, 23799-23809.	3.4	68
25	Crystal structure of a reverse polymerase. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 20149-20150.	7.1	2
26	Synthesis of Glu-tRNA^{Gln} by Engineered and Natural Aminoacyl-tRNA Synthetases. Biochemistry, 2010, 49, 6727-6736.	2.5	19
27	Architectural Underpinnings of the Genetic Code for Glutamine. Biochemistry, 2009, 48, 676-687.	2.5	9
28	Methods for kinetic and thermodynamic analysis of aminoacyl-tRNA synthetases. Methods, 2008, 44, 100-118.	3.8	98
29	The Homotetrameric Phosphoseryl-tRNA Synthetase from Methanosarcina mazei Exhibits Half-of-the-sites Activity. Journal of Biological Chemistry, 2008, 283, 21997-22006.	3.4	37
30	Redundant Synthesis of Cysteinyl-tRNACys in Methanosarcina mazei. Journal of Biological Chemistry, 2008, 283, 22007-22017.	3.4	40
31	A rationally engineered misacylating aminoacyl-tRNA synthetase. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 7428-7433.	7.1	28
32	Structure of the Escherichia coli Leucine-responsive Regulatory Protein Lrp Reveals a Novel Octameric Assembly. Journal of Molecular Biology, 2007, 366, 1589-1602.	4.2	88
33	Kinetic Quality Control of Anticodon Recognition by a Eukaryotic Aminoacyl-tRNA Synthetase. Journal of Molecular Biology, 2007, 367, 1063-1078.	4.2	24
34	Indirect Readout of tRNA for Aminoacylation. Biochemistry, 2007, 46, 10419-10432.	2.5	41
35	Active-Site Assembly in Glutaminyl-tRNA Synthetase by tRNA-Mediated Induced Fit. Biochemistry, 2006, 45, 6858-6865.	2.5	19
36	Exploring writhe in supercoiled minicircle DNA. Journal of Physics Condensed Matter, 2006, 18, S145-S159.	1.8	56

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37	Distinct Kinetic Mechanisms of the Two Classes of Aminoacyl-tRNA Synthetases. Journal of Molecular Biology, 2006, 361, 300-311.	4.2	100
38	Engineered Extrahelical Base Destabilization Enhances Sequence Discrimination of DNA Methyltransferase M.HhaI. Journal of Molecular Biology, 2006, 362, 334-346.	4.2	11
39	ATPâ€mediated amino acid recognition by GlnRS. FASEB Journal, 2006, 20, A477.	0.5	0
40	Two-Step Pathway to Aminoacylated tRNA. Structure, 2005, 13, 1397-1398.	3.3	3
41	tRNA-dependent Aminoacyl-adenylate Hydrolysis by a Nonediting Class I Aminoacyl-tRNA Synthetase. Journal of Biological Chemistry, 2005, 280, 23978-23986.	3.4	83
42	Amino Acid-dependent Transfer RNA Affinity in a Class I Aminoacyl-tRNA Synthetase. Journal of Biological Chemistry, 2005, 280, 23966-23977.	3.4	51
43	Non-cognate Enzymeâ€“DNA Complex: Structural and Kinetic Analysis of EcoRV Endonuclease Bound to the EcoRI Recognition Site GAATTC. Journal of Molecular Biology, 2005, 354, 121-136.	4.2	29
44	Long-range intramolecular signaling in a tRNA synthetase complex revealed by pre-steady-state kinetics. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 14396-14401.	7.1	69
45	Shape-selective RNA recognition by cysteinyl-tRNA synthetase. Nature Structural and Molecular Biology, 2004, 11, 1134-1141.	8.2	83
46	tRNA-Dependent Active Site Assembly in a Class I Aminoacyl-tRNA Synthetase. Structure, 2003, 11, 591-603.	3.3	55
47	Zinc-mediated Amino Acid Discrimination in Cysteinyl-tRNA Synthetase. Journal of Molecular Biology, 2003, 327, 911-917.	4.2	48
48	Amino Acid Discrimination by a Class I Aminoacyl-tRNA Synthetase Specified by Negative Determinants. Journal of Molecular Biology, 2003, 328, 395-408.	4.2	91
49	Aminoacyl-tRNA synthetases: Versatile players in the changing theater of translation. Rna, 2002, 8, 1363-1372.	3.5	74
50	Type II restriction endonucleases. Methods, 2002, 28, 353-364.	3.8	59
51	Sequence selectivity and degeneracy of a restriction endonuclease mediated by DNA intercalation. Nature Structural Biology, 2002, 9, 42-47.	9.7	61
52	Structural origins of amino acid selection without editing by cysteinyl-tRNA synthetase. EMBO Journal, 2002, 21, 2778-2787.	7.8	84
53	Catalytic efficiency and sequence selectivity of a restriction endonuclease modulated by a distal manganese ion binding site. Journal of Molecular Biology, 2001, 306, 851-861.	4.2	21
54	Making the most of metal ions. , 2001, 8, 290-293.		42

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55	Alternative designs for construction of the class II transfer RNA tertiary core. Rna, 2000, 6, 1585-1596.	3.5	13
56	Influence of transfer RNA tertiary structure on aminoacylation efficiency by glutaminyl and cysteinyl-tRNA synthetases 1 1Edited by J. Doudna. Journal of Molecular Biology, 2000, 299, 431-446.	4.2	25
57	Inhibition of EcoRV Endonuclease by Deoxyribo-3â€˜-S-phosphorothiolates:â€‰ A High-Resolution X-ray Crystallographic Study. Journal of the American Chemical Society, 2000, 122, 3314-3324.	13.7	36
58	Tertiary core rearrangements in a tight binding transfer RNA aptamer. Nature Structural Biology, 2000, 7, 497-504.	9.7	46
59	An engineered class I transfer RNA with a class II tertiary fold. Rna, 1999, 5, 434-445.	3.5	23
60	Crystallization and preliminary diffraction analysis ofEscherichia colicysteinyl-tRNA synthetase. Acta Crystallographica Section D: Biological Crystallography, 1999, 55, 1046-1047.	2.5	5
61	Crystallization and preliminary diffraction analysis of the HincII restriction endonucleaseâ€“DNA complex. Acta Crystallographica Section D: Biological Crystallography, 1999, 55, 1943-1945.	2.5	5
62	Structural and energetic origins of indirect readout in site-specific DNA cleavage by a restriction endonuclease. Nature Structural Biology, 1999, 6, 269-277.	9.7	36
63	Mn2+-dependent Catalysis by Restriction Enzymes:Â Pre-Steady-State Analysis ofEcoRV Endonuclease Reveals Burst Kinetics and the Origins of Reduced Activity. Journal of the American Chemical Society, 1999, 121, 1444-1447.	13.7	32
64	Role of protein-induced bending in the specificity of DNA recognition: crystal structure of Eco RV endonuclease complexed with d(AAAGAT) + d(ATCTT) 1 1Edited by P. E. Wright. Journal of Molecular Biology, 1998, 277, 779-787.	4.2	46
65	Recognition of Flanking DNA Sequences by EcoRV Endonuclease Involves Alternative Patterns of Water-mediated Contacts. Journal of Biological Chemistry, 1998, 273, 21721-21729.	3.4	31
66	Structural Basis for the Broad Substrate Specificity of Fiddler Crab Collagenolytic Serine Protease 1â€. Biochemistry, 1997, 36, 5393-5401.	2.5	43
67	Conformational transitions and structural deformability of EcoRV endonuclease revealed by crystallographic analysis. Journal of Molecular Biology, 1997, 273, 207-225.	4.2	78
68	Evolutionary Divergence of Substrate Specificity within the Chymotrypsin-like Serine Protease Fold. Journal of Biological Chemistry, 1997, 272, 29987-29990.	3.4	310
69	Structural basis of substrate specificity in the serine proteases. Protein Science, 1995, 4, 337-360.	7.6	726
70	Crystal Structure of Rat Anionic Trypsin Complexed with the Protein Inhibitors APPI and BPTI. Journal of Molecular Biology, 1993, 230, 919-933.	4.2	71
71	Relocating a Negative Charge in the Binding Pocket of Trypsin. Journal of Molecular Biology, 1993, 230, 934-949.	4.2	79
72	Structural basis for transfer RNA aminoacylation by Escherichia coli glutaminyl-tRNA synthetase. Biochemistry, 1993, 32, 8758-8771.	2.5	199

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73	A genetic selection elucidates structural determinants of arginine versus lysine specificity in trypsin. Gene, 1993, 137, 121-126.	2.2	15
74	Overproduction and purification of Escherichia coli tRNAGln2 and its use in crystallization of the glutaminyl-tRNA synthetase-tRNAGln complex. Journal of Molecular Biology, 1988, 202, 121-126.	4.2	80