Richard GiegÃ©

List of Publications by Year
in descending order

92 papers	5,492 citations	53794 45 h-index	85541 71 g-index
96 all docs	96 docs citations	96 times ranked	4079 citing authors

#	Article	IF	Citations
1	Search for characteristic structural features of mammalian mitochondrial tRNAs. Rna, 2000, 6, 1356-1379.	3.5	256
2	Relaxation of a transfer RNA specificity by removal of modified nucleotides. Nature, 1990, 344, 787-789.	27.8	222
3	A Watsonâ˘Crick Base-Pair-Disrupting Methyl Group (m1A9) Is Sufficient for Cloverleaf Folding of Human Mitochondrial tRNALysÂâ€. Biochemistry, 1999, 38, 13338-13346.	2.5	214
4	Mutation of the Mitochondrial Tyrosyl-tRNA Synthetase Gene, YARS2, Causes Myopathy, Lactic Acidosis, and Sideroblastic Anemiaâ€"MLASA Syndrome. American Journal of Human Genetics, 2010, 87, 52-59.	6.2	211
5	The presence of modified nucleotides is required for cloverleaf folding of a human mitochondrial tRNA. Nucleic Acids Research, 1998, 26, 1636-1643.	14.5	202
6	tRNA Biology in Mitochondria. International Journal of Molecular Sciences, 2015, 16, 4518-4559.	4.1	156
7	The crystallization of biological macromolecules from precipitates: evidence for Ostwald ripening. Journal of Crystal Growth, 1996, 168, 50-62.	1.5	139
8	Structure of transfer RNAs: similarity and variability. Wiley Interdisciplinary Reviews RNA, 2012, 3, 37-61.	6.4	139
9	Yeast tRNAAsp tertiary structure in solution and areas of interaction of the tRNA with aspartyl-tRNA synthetase. Journal of Molecular Biology, 1985, 184, 455-471.	4.2	129
10	Toward the Full Set of Human Mitochondrial Aminoacyl-tRNA Synthetases:Â Characterization of AspRS and TyrRSâ€. Biochemistry, 2005, 44, 4805-4816.	2.5	127
11	Molecular Recognition of the Identity-determinant Set of Isoleucine Transfer RNA from Escherichia coli. Journal of Molecular Biology, 1994, 236, 710-724.	4.2	115
12	Characterization of the lead(II)-induced cleavages in tRNAs in solution and effect of the Y-base removal in yeast tRNAPhe. Biochemistry, 1988, 27, 5771-5777.	2.5	111
13	A single methyl group prevents the mischarging of a tRNA. Nature Structural and Molecular Biology, 1994, 1, 580-582.	8.2	110
14	Microfluidic chips for the crystallization of biomacromolecules by counter-diffusion and on-chip crystal X-ray analysis. Lab on A Chip, 2009, 9, 1412.	6.0	102
15	A historical perspective on protein crystallization from 1840 to the present day. FEBS Journal, 2013, 280, 6456-6497.	4.7	96
16	The 2.0 Å… crystal structure of Thermus thermophilus methionyl-tRNA synthetase reveals two RNA-binding modules. Structure, 2000, 8, 197-208.	3.3	92
17	Effect of modified nucleotides onEscherichia colitRNAGlustructure and on its aminoacylation by glutamyl-tRNA synthetase. FEBS Journal, 1999, 266, 1128-1135.	0.2	91
18	Incorrect Aminoacylations Involving tRNAs or Valyl-tRNA Synthetase from Bacillus stearothermophilus. FEBS Journal, 1974, 45, 351-362.	0.2	90

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19	Structure of tetragonal hen egg-white lysozyme at 0.94â€…Ã… from crystals grown by the counter-diffusion method. Acta Crystallographica Section D: Biological Crystallography, 2001, 57, 1119-1126.	2.5	86
20	Comparison of the tertiary structure of yeast tRNAAsp and tRNAPhe in solution. Journal of Molecular Biology, 1987, 195, 193-204.	4.2	83
21	Virus-Encoded Aminoacyl-tRNA Synthetases: Structural and Functional Characterization of Mimivirus TyrRS and MetRS. Journal of Virology, 2007, 81, 12406-12417.	3.4	78
22	Synthetic RNA-cleaving molecules mimicking ribonuclease A active center. Design and cleavage of tRNA transcripts. Nucleic Acids Research, 1993, 21, 5950-5956.	14.5	77
23	Valylation of the Two RNA Components of Turnip-Yellow Mosaic Virus and Specificity of the tRNA Aminoacylation Reaction. FEBS Journal, 1978, 84, 251-256.	0.2	74
24	The yeast aminoacyl-tRNA synthetases. Biochimie, 1977, 59, 453-462.	2.6	72
25	The free yeast aspartyl-tRNA synthetase differs from the tRNAAsp-complexed enzyme by structural changes in the catalytic site, hinge region, and anticodon-binding domain. Journal of Molecular Biology, 2000, 299, 1313-1324.	4.2	67
26	Interactions of yeast valyl-tRNA synthetase with RNAs and conformational changes of the enzyme. Journal of Molecular Biology, 1979, 129, 483-500.	4.2	65
27	Major tyrosine identity determinants in Methanococcusâ€ƒjannaschii and Saccharomycesâ€ƒcerevisiae tRNATyr are conserved but expressed differently. FEBS Journal, 2001, 268, 761-767.	0.2	62
28	Existence of Two Distinct Aspartyl-tRNA Synthetases inThermus thermophilus. Structural and Biochemical Properties of the Two Enzymesâ€. Biochemistry, 1997, 36, 8785-8797.	2.5	61
29	Laser-excited Raman spectroscopy of biomolecules. VII. Raman spectra and structure of yeast phenylalanine transfer RNA in the crystalline state and in solution. Biochemistry, 1975, 14, 4385-4391.	2.5	60
30	Importance of Conserved Residues for the Conformation of the T-Loop in tRNAs. Journal of Biomolecular Structure and Dynamics, 1987, 5, 669-687.	3.5	60
31	Phase diagram of a crystalline protein: Determination of the solubility of concanavalin A by a microquantitation assay. Journal of Crystal Growth, 1989, 97, 324-332.	1.5	60
32	Crystal growth of proteins, nucleic acids, and viruses in gels. Progress in Biophysics and Molecular Biology, 2009, 101, 13-25.	2.9	60
33	Crystallization of transfer ribonucleic acids. Biochimie, 1984, 66, 179-201.	2.6	58
34	Evolution of the tRNATyr/TyrRS aminoacylation systems. Biochimie, 2005, 87, 873-883.	2.6	58
35	Pathology-related substitutions in human mitochondrial tRNAIle reduce precursor 3' end processing efficiency in vitro. Nucleic Acids Research, 2003, 31, 1904-1912.	14.5	55
36	Influence of tRNA tertiary structure and stability on aminoacylation by yeast aspartyl-tRNA synthetase. Nucleic Acids Research, 1993, 21, 41-49.	14.5	54

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37	tRNA mimics. Current Opinion in Structural Biology, 1998, 8, 286-293.	5.7	54
38	Comparative Proteomics as a New Tool for Exploring Human Mitochondrial tRNA Disordersâ€. Biochemistry, 2002, 41, 144-150.	2.5	52
39	Aminoacylation properties of pathology-related human mitochondrial tRNALys variants. Rna, 2004, 10, 841-853.	3.5	52
40	Structure of phenylalanine-accepting transfer ribonucleic acid and of its environment in aqueous solvents with different salts. Biochemistry, 1983, 22, 4380-4388.	2.5	51
41	Atypical archaeal tRNA pyrrolysine transcript behaves towards EF-Tu as a typical elongator tRNA. Nucleic Acids Research, 2004, 32, 1091-1096.	14.5	50
42	From The Cover: An aminoacyl-tRNA synthetase-like protein encoded by the Escherichia coli yadB gene glutamylates specifically tRNAAsp. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 7530-7535.	7.1	50
43	Crystal Structure of Human Mitochondrial Tyrosyl-tRNA Synthetase Reveals Common and Idiosyncratic Features. Structure, 2007, 15, 1505-1516.	3.3	50
44	Interaction of tRNA with tRNA (Guanosine-1)methyltransferase:Â Binding Specificity Determinants Involve the Dinucleotide G36pG37and Tertiary Structureâ€. Biochemistry, 1997, 36, 8699-8709.	2.5	49
45	Formation of a catalytically active complex between tRNAAsp and aspartyl-tRNA synthetase from yeast in high concentrations of ammonium sulphate. Biochimie, 1982, 64, 357-362.	2.6	47
46	Containerless protein crystallization in floating drops: application to crystal growth monitoring under reduced nucleation conditions. Journal of Crystal Growth, 1996, 168, 204-215.	1.5	47
47	Visualization of RNA crystal growth by atomic force microscopy. Nucleic Acids Research, 1997, 25, 2582-2588.	14.5	46
48	Experimental determination of water equilibration rates in the hanging drop method of protein crystallization. Analytical Biochemistry, 1990, 186, 332-339.	2.4	45
49	Guanosine modifications in runoff transcripts of synthetic transfer RNA-Phe genes microinjected into Xenopus oocytes. Biochimica Et Biophysica Acta Gene Regulatory Mechanisms, 1990, 1050, 267-273.	2.4	45
50	Towards atomic resolution with crystals grown in gel: The case of thaumatin seen at room temperature. Proteins: Structure, Function and Bioinformatics, 2002, 48, 146-150.	2.6	45
51	The Escherichia coli YadB Gene Product Reveals a Novel Aminoacyl-tRNA Synthetase Like Activity. Journal of Molecular Biology, 2004, 337, 273-283.	4.2	45
52	The early history of tRNA recognition by aminoacyl-tRNA synthetases. Journal of Biosciences, 2006, 31, 477-488.	1.1	45
53	A peculiar property of aspartyl-tRNA synthetase from bakers' yeast: chemical modification of the protein by the enzymically synthesized aminoacyl adenylate. Biochemistry, 1985, 24, 1321-1332.	2.5	43
54	Non-discriminating and discriminating aspartyl-tRNA synthetases differ in the anticodon-binding domain. EMBO Journal, 2003, 22, 1632-1643.	7.8	43

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55	A minimalist glutamyl-tRNA synthetase dedicated to aminoacylation of the tRNAAsp QUC anticodon. Nucleic Acids Research, 2004, 32, 2768-2775.	14.5	43
56	Identity Switches between tRNAs Aminoacylated by Class I Glutaminyl- and Class II Aspartyl-tRNA Synthetases. Biochemistry, 1994, 33, 9912-9921.	2.5	41
57	Aminoacyl-tRNA Synthetases in the Bacterial World. EcoSal Plus, 2016, 7, .	5.4	41
58	tRNA-Like Structure Regulates Translation of Brome Mosaic Virus RNA. Journal of Virology, 2004, 78, 4003-4010.	3.4	40
59	Human mitochondrial TyrRS disobeys the tyrosine identity rules. Rna, 2005, 11, 558-562.	3.5	38
60	Triple aminoacylation specificity of a chimerized transfer RNA. Biochemistry, 1993, 32, 14053-14061.	2.5	37
61	Specific valylation identity of turnip yellow mosaic virus RNA by yeast valyl-tRNA synthetase is directed by the anticodon in a kinetic rather than affinity-based discrimination. FEBS Journal, 1991, 195, 229-234.	0.2	34
62	Yeast Aspartyl-tRNA Synthetase Binds Specifically its Own mRNA. Journal of Molecular Biology, 2003, 331, 375-383.	4.2	34
63	Deinococcus glutaminyl-tRNA synthetase is a chimer between proteins from an ancient and the modern pathways of aminoacyl-tRNA formation. Nucleic Acids Research, 2007, 35, 1421-1431.	14.5	34
64	Simultaneous binding of two proteins to opposite sides of a single transfer RNA. Nature Structural Biology, 2001, 8, 344-348.	9.7	33
65	Crystallogenesis studies in microgravity with the Advanced Protein Crystallization Facility on SpaceHab-01. Journal of Crystal Growth, 1997, 181, 79-96.	1.5	32
66	Loss of a Primordial Identity Element for a Mammalian Mitochondrial Aminoacylation System*. Journal of Biological Chemistry, 2006, 281, 15980-15986.	3.4	31
67	Sequences Outside Recognition Sets Are Not Neutral for tRNA Aminoacylation. Journal of Biological Chemistry, 1998, 273, 11605-11610.	3.4	27
68	Comparative analysis of space-grown and earth-grown crystals of an aminoacyl-tRNA synthetase: space-grown crystals are more useful for structural determination. Acta Crystallographica Section D: Biological Crystallography, 2002, 58, 645-652.	2.5	27
69	Yeast tRNAAsp Charging Accuracy Is Threatened by the N-terminal Extension of Aspartyl-tRNA Synthetase. Journal of Biological Chemistry, 2003, 278, 9683-9690.	3.4	27
70	An Intricate RNA Structure with two tRNA-derived Motifs Directs Complex Formation between Yeast Aspartyl-tRNA Synthetase and its mRNA. Journal of Molecular Biology, 2005, 354, 614-629.	4.2	19
71	Crystallogenesis studies on yeast aspartyl-tRNA synthetase: use of phase diagram to improve crystal quality. Acta Crystallographica Section D: Biological Crystallography, 1999, 55, 149-156.	2.5	17
72	Mimics of Yeast tRNAAspand Their Recognition by Aspartyl-tRNA Synthetaseâ€. Biochemistry, 1999, 38, 11926-11932.	2.5	17

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73	Crystallogenesis Trends of Free and Liganded Aminoacyl-tRNA Synthetases. Crystal Growth and Design, 2008, 8, 4297-4306.	3.0	17
74	Biocrystallography: Past, present, future. HFSP Journal, 2010, 4, 109-121.	2.5	17
75	Diversity and similarity in the tRNA world: Overall view and case study on malariaâ€related tRNAs. FEBS Letters, 2010, 584, 350-358.	2.8	16
76	The RNA sequence context defines the mechanistic routes by which yeast arginyl-tRNA synthetase charges tRNA. Rna, 1998, 4, 647-657.	3.5	15
77	Selection of Viral RNA-Derived tRNA-Like Structures with Improved Valylation Activities. Biochemistry, 2000, 39, 6207-6218.	2.5	14
78	Transfer RNA recognition by class I lysyl-tRNA synthetase from the Lyme disease pathogenBorrelia burgdorferi. FEBS Letters, 2005, 579, 2629-2634.	2.8	14
79	Stimulatory effect of ammonium sulfate at high concentrations on the aminoacylation of tRNA and tRNA-like molecules. FEBS Letters, 1990, 261, 335-338.	2.8	12
80	Exploiting Protein Engineering and Crystal Polymorphism for Successful X-ray Structure Determination. Crystal Growth and Design, 2011, 11, 4334-4343.	3.0	12
81	Structure of Escherichia coli Arginyl-tRNA Synthetase in Complex with tRNAArg: Pivotal Role of the D-loop. Journal of Molecular Biology, 2018, 430, 1590-1606.	4.2	12
82	Classical and Novel Chemical Tools for RNA Structure Probing. , 2001, , 71-89.		12
83	RNA recognition by designed peptide fusion creates "artificial" tRNA synthetase. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 7471-7475.	7.1	11
84	Decreased aminoacylation in pathology-related mutants of mitochondrial tRNA^{Tyr} is associated with structural perturbations in tRNA architecture. Rna, 2008, 14, 641-648.	3.5	11
85	What macromolecular crystallogenesis tells us â€“ what is needed in the future. IUCrJ, 2017, 4, 340-349.	2.2	11
86	Predicting Protein Crystallizability and Nucleation. Protein and Peptide Letters, 2012, 19, 725-731.	0.9	10
87	A yeast arginine specific tRNA is a remnant aspartate acceptor. Nucleic Acids Research, 2004, 32, 5076-5086.	14.5	9
88	Good Crystals, Still a Challenge for Structural Biology. Crystal Growth and Design, 2007, 7, 2124-2125.	3.0	8
89	Non-essential role of lysine residues for the catalytic activities of aspartyl-tRNA synthetase and comparison with other aminoacyl-tRNA synthetases. Biochimie, 1988, 70, 205-213.	2.6	6
90	Crystallogenesis at the Heart of the Interplay between Science and Technology in the Quest to Comprehend tRNA Biology. Crystal Growth and Design, 2013, 13, 405-414.	3.0	4

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91	Fifty Years Excitement with Science: Recollections with and without tRNA. Journal of Biological Chemistry, 2013, 288, 6679-6687.	3.4	2
92	History of tRNA research in strasbourg. IUBMB Life, 2019, 71, 1066-1087.	3.4	1