Paul Schimmel

List of Publications by Year in Descending Order

80 papers	5,379 citations	32 h-index	73 g-index
85 ext. papers	5,908 ext. citations	19.1 avg, IF	5.71 L-index

#	Paper	IF	Citations
80	Regulation of ex-translational activities is the primary function of the multi-tRNA synthetase complex. *Nucleic Acids Research*, **2021**, 49, 3603-3616	20.1	7
79	CMT2N-causing aminoacylation domain mutants enable Nrp1 interaction with AlaRS. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	2
78	PANDORA-seq expands the repertoire of regulatory small RNAs by overcoming RNA modifications. *Nature Cell Biology*, **2021**, 23, 424-436	23.4	25
77	X-shaped structure of bacterial heterotetrameric tRNA synthetase suggests cryptic prokaryote functions and a rationale for synthetase classifications. *Nucleic Acids Research*, **2021**, 49, 10106-10119	20.1	5
76	Relaxed sequence constraints favor mutational freedom in idiosyncratic metazoan mitochondrial tRNAs. *Nature Communications*, **2020**, 11, 969	17.4	8
75	The endless frontier of tRNA synthetases. *The Enzymes*, **2020**, 48, 1-10	2.3	1
74	CMT disease severity correlates with mutation-induced open conformation of histidyl-tRNA synthetase, not aminoacylation loss, in patient cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 19440-19448	11.5	16
73	Sca-1 As a Marker of Stress-Induced Thrombopoiesis in Mice. *Blood*, **2019**, 134, 1068-1068	2.2	1
72	An alternative conformation of human TrpRS suggests a role of zinc in activating non-enzymatic function. *RNA Biology*, **2018**, 15, 649-658	4.8	11
71	Tyrosyl-tRNA synthetase stimulates thrombopoietin-independent hematopoiesis accelerating recovery from thrombocytopenia. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, E8228-E8235	11.5	24
70	ANKRD16 prevents neuron loss caused by an editing-defective tRNA synthetase. *Nature*, **2018**, 557, 510-515	50.4	16
69	Distinct ways of G:U recognition by conserved tRNA binding motifs. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 7527-7532	11.5	13
68	Alternative stable conformation capable of protein misinteraction links tRNA synthetase to peripheral neuropathy. *Nucleic Acids Research*, **2017**, 45, 8091-8104	20.1	27
67	Double mimicry evades tRNA synthetase editing by toxic vegetable-sourced non-proteinogenic amino acid. *Nature Communications*, **2017**, 8, 2281	17.4	30
66	Evolutionary Gain of Alanine Mischarging to Noncognate tRNAs with a G4:U69 Base Pair. *Journal of the American Chemical Society*, **2016**, 138, 12948-12955	16.4	27
65	Alternative splicing creates two new architectures for human tyrosyl-tRNA synthetase. *Nucleic Acids Research*, **2016**, 44, 1247-55	20.1	5
64	Extracellular Tyrosyl-tRNA Synthetase Is a Potent Stimulator of Thrombocytopoiesis. *Blood*, **2016**, 128, 1476-1476	2.2	

63	p53-Dependent DNA damage response sensitive to editing-defective tRNA synthetase in zebrafish. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 8460-5	11.5	4
62	A human tRNA synthetase is a potent PARP1-activating effector target for resveratrol. *Nature*, **2015**, 519, 370-3	50.4	101
61	The cytoplasmic prolyl-tRNA synthetase of the malaria parasite is a dual-stage target of febrifugine and its analogs. *Science Translational Medicine*, **2015**, 7, 288ra77	17.5	55
60	RNA function. Ribosome stalling induced by mutation of a CNS-specific tRNA causes neurodegeneration. *Science*, **2014**, 345, 455-9	33.3	263
59	Human tRNA synthetase catalytic nulls with diverse functions. *Science*, **2014**, 345, 328-32	33.3	81
58	The selective tRNA aminoacylation mechanism based on a single GU pair. *Nature*, **2014**, 510, 507-11	50.4	61
57	Deficiencies in tRNA synthetase editing activity cause cardioproteinopathy. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 17570-5	11.5	53
56	Structural switch of lysyl-tRNA synthetase between translation and transcription. *Molecular Cell*, **2013**, 49, 30-42	17.6	104
55	Essential nontranslational functions of tRNA synthetases. *Nature Chemical Biology*, **2013**, 9, 145-53	11.7	246
54	Mistranslation and its control by tRNA synthetases. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2011**, 366, 2965-71	5.8	27
53	New functions of aminoacyl-tRNA synthetases beyond translation. *Nature Reviews Molecular Cell Biology*, **2010**, 11, 668-74	48.7	228
52	An editing activity that prevents mistranslation and connection to disease. *Journal of Biological Chemistry*, **2008**, 283, 28777-82	5.4	9
51	Translation silenced by fused pair of tRNA synthetases. *Cell*, **2004**, 119, 147-8	56.2	1
50	Crystal Structure of an EMAP-II-Like Cytokine Released from a Human tRNA Synthetase. *Helvetica Chimica Acta*, **2003**, 86, 1246-1257	2	33
49	tRNA structure goes from L to lambda. *Cell*, **2003**, 113, 276-8	56.2	12
48	Introducing New Amino Acids into Proteins. *Scientific World Journal, The*, **2002**, 2, 47-48	2.2	
47	Structure-based phylogeny of class IIa tRNA synthetases in relation to an unusual biochemistry. *Journal of Molecular Evolution*, **2001**, 53, 261-8	3.1	20
46	Simultaneous binding of two proteins to opposite sides of a single transfer RNA. *Nature Structural Biology*, **2001**, 8, 344-8		29

45	An aminoacyl tRNA synthetase whose sequence fits into neither of the two known classes. *Nature*, **2001**, 411, 110-4	50.4	42
44	Aminoacyl-tRNA synthetases: potential markers of genetic code development. *Trends in Biochemical Sciences*, **2001**, 26, 591-6	10.3	127
43	Two classes of tRNA synthetases suggested by sterically compatible dockings on tRNA acceptor stem. *Cell*, **2001**, 104, 191-3	56.2	139
42	Industry benefits from the public funding of intellectual curiosity. *Nature*, **2000**, 406, 826	50.4	
41	Public funding of intellectual curiosity. *IUBMB Life*, **2000**, 50, 345-6	4.7	1
40	RNA scaffolds for minihelix-based aminoacyl transfer: design of "transpeptizymes". *Journal of Biomolecular Structure and Dynamics*, **2000**, 17 Suppl 1, 29-37	3.6	1
39	Errors from selective disruption of the editing center in a tRNA synthetase. *Biochemistry*, **2000**, 39, 8180-6	3.2	45
38	Inhibitors of aminoacyl-tRNA synthetases as novel anti-infectives. *Expert Opinion on Investigational Drugs*, **2000**, 9, 1767-75	5.9	56
37	Nucleotide determinants for tRNA-dependent amino acid discrimination by a class I tRNA synthetase. *Biochemistry*, **1999**, 38, 16898-903	3.2	32
36	Two distinct cytokines released from a human aminoacyl-tRNA synthetase. *Science*, **1999**, 284, 147-51	33.3	407
35	Atomic Determinants for Aminoacylation of RNA Minihelices and Relationship to Genetic Code. *Accounts of Chemical Research*, **1999**, 32, 368-375	24.3	49
34	Evidence for breaking domain-domain functional communication in a synthetase-tRNA complex. *Biochemistry*, **1999**, 38, 16359-65	3.2	22
33	Aminoacyl tRNA synthetases as targets for new anti-infectives. *FASEB Journal*, **1998**, 12, 1599-1609	0.9	141
32	Reconstruction of quaternary structures of class II tRNA synthetases by rational mutagenesis of a conserved domain. *Biochemistry*, **1997**, 36, 15041-8	3.2	21
31	Zinc-dependent tRNA binding by a peptide element within a tRNA synthetase. *Biochemistry*, **1997**, 36, 6739-44	3.2	13
30	Discrete determinants in transfer RNA for editing and aminoacylation. *Science*, **1997**, 276, 1250-2	33.3	82
29	A mechanism for reducing entropic cost of induced fit in protein--RNA recognition. *Biochemistry*, **1996**, 35, 8095-102	3.2	19
28	Evidence that specificity of microhelix charging by a class I tRNA synthetase occurs in the transition state of catalysis. *Biochemistry*, **1996**, 35, 608-15	3.2	26

27	C-terminal zinc-containing peptide required for RNA recognition by a class I tRNA synthetase. *Biochemistry*, **1996**, 35, 4139-45	3.2	22
26	Aminoacylation error correction. *Nature*, **1996**, 384, 33-4	50.4	205
25	aDistortedaRNA helix recognition. *Nature*, **1996**, 384, 422	50.4	5
24	Aminoacylation of RNA minihelices: implications for tRNA synthetase structural design and evolution. *Critical Reviews in Biochemistry and Molecular Biology*, **1993**, 28, 309-22	8.7	29
23	Evidence for distinct locations for metal binding sites in two closely related class I tRNA synthetases. *Journal of Biomolecular Structure and Dynamics*, **1993**, 11, 571-81	3.6	7
22	Aminoacylation of RNA oligonucleotides: minimalist structures and origin of specificity. *FASEB Journal*, **1993**, 7, 282-9	0.9	29
21	Idiographic representation of conserved domain of a class II tRNA synthetase of unknown structure. *Protein Science*, **1993**, 2, 2259-62	6.3	31
20	Amino acid binding by the class I aminoacyl-tRNA synthetases: role for a conserved proline in the signature sequence. *Protein Science*, **1992**, 1, 575-81	6.3	18
19	Intron locations and functional deletions in relation to the design and evolution of a subgroup of class I tRNA synthetases. *Protein Science*, **1992**, 1, 1387-91	6.3	20
18	Functional contacts of a transfer RNA synthetase with 2ahydroxyl groups in the RNA minor groove. *Nature*, **1992**, 357, 513-5	50.4	118
17	A metal-binding motif implicated in RNA recognition by an aminoacyl-tRNA synthetase and by a retroviral gene product. *Molecular Microbiology*, **1992**, 6, 1259-62	4.1	7
16	Small RNA helices as substrates for aminoacylation and their relationship to charging of transfer RNAs. *FEBS Journal*, **1992**, 206, 315-21		39
15	Classes of aminoacyl-tRNA synthetases and the establishment of the genetic code. *Trends in Biochemical Sciences*, **1991**, 16, 1-3	10.3	68
14	RNA minihelices and the decoding of genetic information. *FASEB Journal*, **1991**, 5, 2180-7	0.9	22
13	Alanine transfer RNA synthetase: structure-function relationships and molecular recognition of transfer RNA. *Advances in Enzymology and Related Areas of Molecular Biology*, **1990**, 63, 233-70		5
12	Understanding structural relationships in proteins of unsolved three-dimensional structure. *Proteins: Structure, Function and Bioinformatics*, **1990**, 7, 99-111	4.2	88
11	Construction of intra-domain chimeras of aminoacyl-tRNA synthetases. *Journal of Biomolecular Structure and Dynamics*, **1989**, 7, 225-34	3.6	5
10	Aminoacylation of RNA minihelices with alanine. *Nature*, **1989**, 337, 478-81	50.4	309

9	A simple structural feature is a major determinant of the identity of a transfer RNA. *Nature*, **1988**, 333, 140-5	50.4	560
8	Evolution and Future of Biotechnology. *ACS Symposium Series*, **1988**, 30-35	0.4	0
7	Aminoacyl tRNA synthetases: general scheme of structure-function relationships in the polypeptides and recognition of transfer RNAs. *Annual Review of Biochemistry*, **1987**, 56, 125-58	29.1	489
6	Synthesis of two polypeptide subunits of an aminoacyl tRNA synthetase as a single polypeptide chain. *Journal of Biomolecular Structure and Dynamics*, **1983**, 1, 225-9	3.6	2
5	A new troponin T and cDNA clones for 13 different muscle proteins, found by shotgun sequencing. *Nature*, **1983**, 302, 718-21	50.4	123
4	Modular arrangement of functional domains along the sequence of an aminoacyl tRNA synthetase. *Nature*, **1983**, 306, 441-7	50.4	178
3	A covalent adduct between the uracil ring and the active site of an aminoacyl tRNA synthetase. *Nature*, **1982**, 298, 136-40	50.4	79
2	An aminoacyl tRNA synthetase binds to a specific DNA sequence and regulates its gene transcription. *Nature*, **1981**, 291, 632-5	50.4	134
1	Small RNA Oligonucleotide Substrates for Specific Aminoacylations349-370		16