

# Paul Schimmel

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	A simple structural feature is a major determinant of the identity of a transfer RNA. <i>Nature</i> , <b>1988</b> , 333, 140-5	50.4	560
79	Aminoacyl tRNA synthetases: general scheme of structure-function relationships in the polypeptides and recognition of transfer RNAs. <i>Annual Review of Biochemistry</i> , <b>1987</b> , 56, 125-58	29.1	489
78	Two distinct cytokines released from a human aminoacyl-tRNA synthetase. <i>Science</i> , <b>1999</b> , 284, 147-51	33.3	407
77	Aminoacylation of RNA minihelices with alanine. <i>Nature</i> , <b>1989</b> , 337, 478-81	50.4	309
76	RNA function. Ribosome stalling induced by mutation of a CNS-specific tRNA causes neurodegeneration. <i>Science</i> , <b>2014</b> , 345, 455-9	33.3	263
75	Essential nontranslational functions of tRNA synthetases. <i>Nature Chemical Biology</i> , <b>2013</b> , 9, 145-53	11.7	246
74	New functions of aminoacyl-tRNA synthetases beyond translation. <i>Nature Reviews Molecular Cell Biology</i> , <b>2010</b> , 11, 668-74	48.7	228
73	Aminoacylation error correction. <i>Nature</i> , <b>1996</b> , 384, 33-4	50.4	205
72	Modular arrangement of functional domains along the sequence of an aminoacyl tRNA synthetase. <i>Nature</i> , <b>1983</b> , 306, 441-7	50.4	178
71	Aminoacyl tRNA synthetases as targets for new anti-infectives. <i>FASEB Journal</i> , <b>1998</b> , 12, 1599-1609	0.9	141
70	Two classes of tRNA synthetases suggested by sterically compatible dockings on tRNA acceptor stem. <i>Cell</i> , <b>2001</b> , 104, 191-3	56.2	139
69	An aminoacyl tRNA synthetase binds to a specific DNA sequence and regulates its gene transcription. <i>Nature</i> , <b>1981</b> , 291, 632-5	50.4	134
68	Aminoacyl-tRNA synthetases: potential markers of genetic code development. <i>Trends in Biochemical Sciences</i> , <b>2001</b> , 26, 591-6	10.3	127
67	A new troponin T and cDNA clones for 13 different muscle proteins, found by shotgun sequencing. <i>Nature</i> , <b>1983</b> , 302, 718-21	50.4	123
66	Functional contacts of a transfer RNA synthetase with 2-hydroxyl groups in the RNA minor groove. <i>Nature</i> , <b>1992</b> , 357, 513-5	50.4	118
65	Structural switch of lysyl-tRNA synthetase between translation and transcription. <i>Molecular Cell</i> , <b>2013</b> , 49, 30-42	17.6	104
64	A human tRNA synthetase is a potent PARP1-activating effector target for resveratrol. <i>Nature</i> , <b>2015</b> , 519, 370-3	50.4	101

63	Understanding structural relationships in proteins of unsolved three-dimensional structure. <i>Proteins: Structure, Function and Bioinformatics</i> , <b>1990</b> , 7, 99-111	4.2	88
62	Discrete determinants in transfer RNA for editing and aminoacylation. <i>Science</i> , <b>1997</b> , 276, 1250-2	33.3	82
61	Human tRNA synthetase catalytic nulls with diverse functions. <i>Science</i> , <b>2014</b> , 345, 328-32	33.3	81
60	A covalent adduct between the uracil ring and the active site of an aminoacyl tRNA synthetase. <i>Nature</i> , <b>1982</b> , 298, 136-40	50.4	79
59	Classes of aminoacyl-tRNA synthetases and the establishment of the genetic code. <i>Trends in Biochemical Sciences</i> , <b>1991</b> , 16, 1-3	10.3	68
58	The selective tRNA aminoacylation mechanism based on a single G $\ddot{U}$ pair. <i>Nature</i> , <b>2014</b> , 510, 507-11	50.4	61
57	Inhibitors of aminoacyl-tRNA synthetases as novel anti-infectives. <i>Expert Opinion on Investigational Drugs</i> , <b>2000</b> , 9, 1767-75	5.9	56
56	The cytoplasmic prolyl-tRNA synthetase of the malaria parasite is a dual-stage target of febrifugine and its analogs. <i>Science Translational Medicine</i> , <b>2015</b> , 7, 288ra77	17.5	55
55	Deficiencies in tRNA synthetase editing activity cause cardioproteinopathy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 17570-5	11.5	53
54	Atomic Determinants for Aminoacylation of RNA Minihelices and Relationship to Genetic Code. <i>Accounts of Chemical Research</i> , <b>1999</b> , 32, 368-375	24.3	49
53	Errors from selective disruption of the editing center in a tRNA synthetase. <i>Biochemistry</i> , <b>2000</b> , 39, 8180-5	36.2	45
52	An aminoacyl tRNA synthetase whose sequence fits into neither of the two known classes. <i>Nature</i> , <b>2001</b> , 411, 110-4	50.4	42
51	Small RNA helices as substrates for aminoacylation and their relationship to charging of transfer RNAs. <i>FEBS Journal</i> , <b>1992</b> , 206, 315-21		39
50	Crystal Structure of an EMAP-II-Like Cytokine Released from a Human tRNA Synthetase. <i>Helvetica Chimica Acta</i> , <b>2003</b> , 86, 1246-1257	2	33
49	Nucleotide determinants for tRNA-dependent amino acid discrimination by a class I tRNA synthetase. <i>Biochemistry</i> , <b>1999</b> , 38, 16898-903	3.2	32
48	Idiographic representation of conserved domain of a class II tRNA synthetase of unknown structure. <i>Protein Science</i> , <b>1993</b> , 2, 2259-62	6.3	31
47	Double mimicry evades tRNA synthetase editing by toxic vegetable-sourced non-proteinogenic amino acid. <i>Nature Communications</i> , <b>2017</b> , 8, 2281	17.4	30
46	Simultaneous binding of two proteins to opposite sides of a single transfer RNA. <i>Nature Structural Biology</i> , <b>2001</b> , 8, 344-8		29

45	Aminoacylation of RNA minihelices: implications for tRNA synthetase structural design and evolution. <i>Critical Reviews in Biochemistry and Molecular Biology</i> , <b>1993</b> , 28, 309-22	8.7	29
44	Aminoacylation of RNA oligonucleotides: minimalist structures and origin of specificity. <i>FASEB Journal</i> , <b>1993</b> , 7, 282-9	0.9	29
43	Alternative stable conformation capable of protein misinteraction links tRNA synthetase to peripheral neuropathy. <i>Nucleic Acids Research</i> , <b>2017</b> , 45, 8091-8104	20.1	27
42	Evolutionary Gain of Alanine Mischarging to Noncognate tRNAs with a G4:U69 Base Pair. <i>Journal of the American Chemical Society</i> , <b>2016</b> , 138, 12948-12955	16.4	27
41	Mistranslation and its control by tRNA synthetases. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2011</b> , 366, 2965-71	5.8	27
40	Evidence that specificity of microhelix charging by a class I tRNA synthetase occurs in the transition state of catalysis. <i>Biochemistry</i> , <b>1996</b> , 35, 608-15	3.2	26
39	PANDORA-seq expands the repertoire of regulatory small RNAs by overcoming RNA modifications. <i>Nature Cell Biology</i> , <b>2021</b> , 23, 424-436	23.4	25
38	Tyrosyl-tRNA synthetase stimulates thrombopoietin-independent hematopoiesis accelerating recovery from thrombocytopenia. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2018</b> , 115, E8228-E8235	11.5	24
37	Evidence for breaking domain-domain functional communication in a synthetase-tRNA complex. <i>Biochemistry</i> , <b>1999</b> , 38, 16359-65	3.2	22
36	C-terminal zinc-containing peptide required for RNA recognition by a class I tRNA synthetase. <i>Biochemistry</i> , <b>1996</b> , 35, 4139-45	3.2	22
35	RNA minihelices and the decoding of genetic information. <i>FASEB Journal</i> , <b>1991</b> , 5, 2180-7	0.9	22
34	Reconstruction of quaternary structures of class II tRNA synthetases by rational mutagenesis of a conserved domain. <i>Biochemistry</i> , <b>1997</b> , 36, 15041-8	3.2	21
33	Structure-based phylogeny of class IIa tRNA synthetases in relation to an unusual biochemistry. <i>Journal of Molecular Evolution</i> , <b>2001</b> , 53, 261-8	3.1	20
32	Intron locations and functional deletions in relation to the design and evolution of a subgroup of class I tRNA synthetases. <i>Protein Science</i> , <b>1992</b> , 1, 1387-91	6.3	20
31	A mechanism for reducing entropic cost of induced fit in protein-RNA recognition. <i>Biochemistry</i> , <b>1996</b> , 35, 8095-102	3.2	19
30	Amino acid binding by the class I aminoacyl-tRNA synthetases: role for a conserved proline in the signature sequence. <i>Protein Science</i> , <b>1992</b> , 1, 575-81	6.3	18
29	CMT disease severity correlates with mutation-induced open conformation of histidyl-tRNA synthetase, not aminoacylation loss, in patient cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 19440-19448	11.5	16
28	Small RNA Oligonucleotide Substrates for Specific Aminoacylations349-370		16

27	ANKRD16 prevents neuron loss caused by an editing-defective tRNA synthetase. <i>Nature</i> , <b>2018</b> , 557, 510-515	51.5	16
26	Zinc-dependent tRNA binding by a peptide element within a tRNA synthetase. <i>Biochemistry</i> , <b>1997</b> , 36, 6739-44	3.2	13
25	Distinct ways of G:U recognition by conserved tRNA binding motifs. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2018</b> , 115, 7527-7532	11.5	13
24	tRNA structure goes from L to lambda. <i>Cell</i> , <b>2003</b> , 113, 276-8	56.2	12
23	An alternative conformation of human TrpRS suggests a role of zinc in activating non-enzymatic function. <i>RNA Biology</i> , <b>2018</b> , 15, 649-658	4.8	11
22	An editing activity that prevents mistranslation and connection to disease. <i>Journal of Biological Chemistry</i> , <b>2008</b> , 283, 28777-82	5.4	9
21	Relaxed sequence constraints favor mutational freedom in idiosyncratic metazoan mitochondrial tRNAs. <i>Nature Communications</i> , <b>2020</b> , 11, 969	17.4	8
20	Evidence for distinct locations for metal binding sites in two closely related class I tRNA synthetases. <i>Journal of Biomolecular Structure and Dynamics</i> , <b>1993</b> , 11, 571-81	3.6	7
19	A metal-binding motif implicated in RNA recognition by an aminoacyl-tRNA synthetase and by a retroviral gene product. <i>Molecular Microbiology</i> , <b>1992</b> , 6, 1259-62	4.1	7
18	Regulation of ex-translational activities is the primary function of the multi-tRNA synthetase complex. <i>Nucleic Acids Research</i> , <b>2021</b> , 49, 3603-3616	20.1	7
17	Alternative splicing creates two new architectures for human tyrosyl-tRNA synthetase. <i>Nucleic Acids Research</i> , <b>2016</b> , 44, 1247-55	20.1	5
16	Alanine transfer RNA synthetase: structure-function relationships and molecular recognition of transfer RNA. <i>Advances in Enzymology and Related Areas of Molecular Biology</i> , <b>1990</b> , 63, 233-70		5
15	Distorted RNA helix recognition. <i>Nature</i> , <b>1996</b> , 384, 422	50.4	5
14	Construction of intra-domain chimeras of aminoacyl-tRNA synthetases. <i>Journal of Biomolecular Structure and Dynamics</i> , <b>1989</b> , 7, 225-34	3.6	5
13	X-shaped structure of bacterial heterotetrameric tRNA synthetase suggests cryptic prokaryote functions and a rationale for synthetase classifications. <i>Nucleic Acids Research</i> , <b>2021</b> , 49, 10106-10119	20.1	5
12	p53-Dependent DNA damage response sensitive to editing-defective tRNA synthetase in zebrafish. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 8460-5	11.5	4
11	Synthesis of two polypeptide subunits of an aminoacyl tRNA synthetase as a single polypeptide chain. <i>Journal of Biomolecular Structure and Dynamics</i> , <b>1983</b> , 1, 225-9	3.6	2
10	CMT2N-causing aminoacylation domain mutants enable Nrp1 interaction with AlaRS. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2021</b> , 118,	11.5	2

9	Translation silenced by fused pair of tRNA synthetases. <i>Cell</i> , <b>2004</b> , 119, 147-8	56.2	1
8	Public funding of intellectual curiosity. <i>IUBMB Life</i> , <b>2000</b> , 50, 345-6	4.7	1
7	RNA scaffolds for minihelix-based aminoacyl transfer: design of "transpeptizymes". <i>Journal of Biomolecular Structure and Dynamics</i> , <b>2000</b> , 17 Suppl 1, 29-37	3.6	1
6	Sca-1 As a Marker of Stress-Induced Thrombopoiesis in Mice. <i>Blood</i> , <b>2019</b> , 134, 1068-1068	2.2	1
5	The endless frontier of tRNA synthetases. <i>The Enzymes</i> , <b>2020</b> , 48, 1-10	2.3	1
4	Evolution and Future of Biotechnology. <i>ACS Symposium Series</i> , <b>1988</b> , 30-35	0.4	0
3	Introducing New Amino Acids into Proteins. <i>Scientific World Journal, The</i> , <b>2002</b> , 2, 47-48	2.2	
2	Industry benefits from the public funding of intellectual curiosity. <i>Nature</i> , <b>2000</b> , 406, 826	50.4	
1	Extracellular Tyrosyl-tRNA Synthetase Is a Potent Stimulator of Thrombocytopoiesis. <i>Blood</i> , <b>2016</b> , 128, 1476-1476	2.2	