

Dieter Soll

List of Publications by Year in descending order

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202
papers

13,927
citations

31902

53
h-index

25716

108
g-index

230
all docs

230
docs citations

230
times ranked

11525
citing authors

#	ARTICLE	IF	CITATIONS
1	Aminoacyl-tRNA Synthesis. Annual Review of Biochemistry, 2000, 69, 617-650.	5.0	1,243
2	Codon Bias as a Means to Fine-Tune Gene Expression. Molecular Cell, 2015, 59, 149-161.	4.5	554
3	Natural expansion of the genetic code. Nature Chemical Biology, 2007, 3, 29-35.	3.9	527
4	RNA-dependent conversion of phosphoserine forms selenocysteine in eukaryotes and archaea. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 18923-18927.	3.3	428
5	The Human SepSecS-tRNA ^{Sec} Complex Reveals the Mechanism of Selenocysteine Formation. Science, 2009, 325, 321-325.	6.0	390
6	Expanding the Genetic Code of <i>Escherichia coli</i> with Phosphoserine. Science, 2011, 333, 1151-1154.	6.0	316
7	Decameric SelA-tRNA ^{Sec} Ring Structure Reveals Mechanism of Bacterial Selenocysteine Formation. Science, 2013, 340, 75-78.	6.0	302
8	The RNA required in the first step of chlorophyll biosynthesis is a chloroplast glutamate tRNA. Nature, 1986, 322, 281-284.	13.7	289
9	Protein biosynthesis in organelles requires misaminoacylation of tRNA. Nature, 1988, 331, 187-190.	13.7	242
10	Evolution of translation machinery in recoded bacteria enables multi-site incorporation of nonstandard amino acids. Nature Biotechnology, 2015, 33, 1272-1279.	9.4	234
11	Structural insights into the role of rRNA modifications in protein synthesis and ribosome assembly. Nature Structural and Molecular Biology, 2015, 22, 342-344.	3.6	224
12	Anticodon and acceptor stem nucleotides in tRNA ^{Gln} are major recognition elements for E. coli glutaminyl-tRNA synthetase. Nature, 1991, 352, 258-260.	13.7	206
13	Structure of pyrrolysyl-tRNA synthetase, an archaeal enzyme for genetic code innovation. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 11268-11273.	3.3	194
14	Nanoarchaeum equitans creates functional tRNAs from separate genes for their 5'- and 3'-halves. Nature, 2005, 433, 537-541.	13.7	192
15	Severe oxidative stress induces protein mistranslation through impairment of an aminoacyl-tRNA synthetase editing site. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 4028-4033.	3.3	192
16	A chemical biology route to site-specific authentic protein modifications. Science, 2016, 354, 623-626.	6.0	188
17	Continuous directed evolution of aminoacyl-tRNA synthetases. Nature Chemical Biology, 2017, 13, 1253-1260.	3.9	185
18	An aminoacyl-tRNA synthetase that specifically activates pyrrolysine. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 12450-12454.	3.3	177

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19	A 2-thiouridine derivative in tRNA ^{Glu} is a positive determinant for aminoacylation by Escherichia coli glutamyl-tRNA synthetase. <i>Biochemistry</i> , 1993, 32, 3836-3841.	1.2	176
20	tRNA-dependent asparagine formation. <i>Nature</i> , 1996, 382, 589-590.	13.7	172
21	Trans-editing of mischarged tRNAs. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 15422-15427.	3.3	167
22	Biosynthesis and Function of Modified Nucleosides. , 0, , 165-205.		165
23	Pyrrolysyl-tRNA synthetase's tRNA ^{Pyl} structure reveals the molecular basis of orthogonality. <i>Nature</i> , 2009, 457, 1163-1167.	13.7	161
24	Domain-specific recruitment of amide amino acids for protein synthesis. <i>Nature</i> , 2000, 407, 106-110.	13.7	152
25	Upgrading protein synthesis for synthetic biology. <i>Nature Chemical Biology</i> , 2013, 9, 594-598.	3.9	143
26	Aminoacyl-tRNA synthesis: divergent routes to a common goal. <i>Trends in Biochemical Sciences</i> , 1997, 22, 39-42.	3.7	136
27	Mutations Disrupting Selenocysteine Formation Cause Progressive Cerebello-Cerebral Atrophy. <i>American Journal of Human Genetics</i> , 2010, 87, 538-544.	2.6	131
28	Rewriting the Genetic Code. <i>Annual Review of Microbiology</i> , 2017, 71, 557-577.	2.9	131
29	Regulation of HEMA1 expression by phytochrome and a plastid signal during de-etiolation in <i>Arabidopsis thaliana</i> . <i>Plant Journal</i> , 2001, 25, 549-561.	2.8	130
30	Modified Nucleosides and Codon Recognition+. , 0, , 207-223.		123
31	The RCN1-encoded A subunit of protein phosphatase 2A increases phosphatase activity in vivo. <i>Plant Journal</i> , 1999, 20, 389-399.	2.8	119
32	Pyrrolysine is not hardwired for cotranslational insertion at UAG codons. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 3141-3146.	3.3	112
33	Mutations in QARS, Encoding Glutamyl-tRNA Synthetase, Cause Progressive Microcephaly, Cerebral-Cerebellar Atrophy, and Intractable Seizures. <i>American Journal of Human Genetics</i> , 2014, 94, 547-558.	2.6	106
34	Genetic code flexibility in microorganisms: novel mechanisms and impact on physiology. <i>Nature Reviews Microbiology</i> , 2015, 13, 707-721.	13.6	104
35	Polyspecific pyrrolysyl-tRNA synthetases from directed evolution. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 16724-16729.	3.3	101
36	<i>In Vivo</i> Biosynthesis of a ¹² C-Amino Acid-Containing Protein. <i>Journal of the American Chemical Society</i> , 2016, 138, 5194-5197.	6.6	101

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37	Upgrading aminoacyl-tRNA synthetases for genetic code expansion. <i>Current Opinion in Chemical Biology</i> , 2018, 46, 115-122.	2.8	94
38	Dimeric tRNA precursors in yeast. <i>Nature</i> , 1980, 287, 750-752.	13.7	87
39	A Facile Strategy for Selective Incorporation of Phosphoserine into Histones. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 5771-5775.	7.2	87
40	Rationally evolving tRNA ^{Pyl} for efficient incorporation of noncanonical amino acids. <i>Nucleic Acids Research</i> , 2015, 43, e156-e156.	6.5	86
41	<i>N</i> -Acetyl lysyl-tRNA synthetases evolved by a CcdB-based selection possess <i>N</i> -acetyl lysine specificity in vitro and in vivo. <i>FEBS Letters</i> , 2012, 586, 729-733.	1.3	83
42	The selenocysteine-inserting opal suppressor serine tRNA from <i>E. coli</i> is highly unusual in structure and modification. <i>Nucleic Acids Research</i> , 1989, 17, 7159-7165.	6.5	82
43	Coevolution of an aminoacyl-tRNA synthetase with its tRNA substrates. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 13863-13868.	3.3	81
44	A novel root gravitropism mutant of <i>Arabidopsis thaliana</i> exhibiting altered auxin physiology. <i>Physiologia Plantarum</i> , 1995, 93, 790-798.	2.6	76
45	Primary, Secondary, and Tertiary Structures of tRNAs. , 0, , 93-126.		74
46	Crystal structures reveal an elusive functional domain of pyrrolysyl-tRNA synthetase. <i>Nature Chemical Biology</i> , 2017, 13, 1261-1266.	3.9	73
47	Recoding the Genetic Code with Selenocysteine. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 319-323.	7.2	72
48	Chemical Evolution of a Bacterial Proteome. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 10030-10034.	7.2	71
49	Near-cognate suppression of amber, opal and quadruplet codons competes with aminoacyl-tRNA ^{Pyl} for genetic code expansion. <i>FEBS Letters</i> , 2012, 586, 3931-3937.	1.3	70
50	Insights into RNA binding by the anticancer drug cisplatin from the crystal structure of cisplatin-modified ribosome. <i>Nucleic Acids Research</i> , 2016, 44, 4978-4987.	6.5	69
51	Revising the Structural Diversity of Ribosomal Proteins Across the Three Domains of Life. <i>Molecular Biology and Evolution</i> , 2018, 35, 1588-1598.	3.5	66
52	A [3Fe-4S] cluster is required for tRNA thiolation in archaea and eukaryotes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 12703-12708.	3.3	63
53	Rewiring Translation for Elongation Factor Tu-Dependent Selenocysteine Incorporation. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 1441-1445.	7.2	62
54	Expanding the genetic code of <i>Escherichia coli</i> with phosphotyrosine. <i>FEBS Letters</i> , 2016, 590, 3040-3047.	1.3	60

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55	Purification of Five Serine Transfer Ribonucleic Acid Species from <i>Escherichia coli</i> and Their Acylation by Homologous and Heterologous Seryl Transfer Ribonucleic Acid Synthetases. <i>Journal of Biological Chemistry</i> , 1970, 245, 1394-1400.	1.6	59
56	Emergence of the universal genetic code imprinted in an RNA record. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 18095-18100.	3.3	55
57	The amino-terminal domain of pyrrolysyl-tRNA synthetase is dispensable in vitro but required for in vivo activity. <i>FEBS Letters</i> , 2007, 581, 3197-3203.	1.3	54
58	Facile Recoding of Selenocysteine in Nature. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 5337-5341.	7.2	54
59	Translation of Diverse Aramid- and 1,3-Dicarbonyl-peptides by Wild Type Ribosomes <i>in Vitro</i> . <i>ACS Central Science</i> , 2019, 5, 1289-1294.	5.3	54
60	Recognition of pyrrolysine tRNA by the <i>Desulfitobacterium hafniense</i> pyrrolysyl-tRNA synthetase. <i>Nucleic Acids Research</i> , 2007, 35, 1270-1278.	6.5	52
61	Adding pyrrolysine to the <i>Escherichia coli</i> genetic code. <i>FEBS Letters</i> , 2007, 581, 5282-5288.	1.3	52
62	Selenoprotein biosynthesis defect causes progressive encephalopathy with elevated lactate. <i>Neurology</i> , 2015, 85, 306-315.	1.5	52
63	Drugging tRNA aminoacylation. <i>RNA Biology</i> , 2018, 15, 667-677.	1.5	51
64	Indolmycin Resistance of <i>Streptomyces coelicolor</i> A3(2) by Induced Expression of One of Its Two Tryptophanyl-tRNA Synthetases. <i>Journal of Biological Chemistry</i> , 2002, 277, 23882-23887.	1.6	50
65	Engineering the elongation factor Tu for efficient selenoprotein synthesis. <i>Nucleic Acids Research</i> , 2014, 42, 9976-9983.	6.5	49
66	A second and differentially expressed glutamyl-tRNA reductase gene from <i>Arabidopsis thaliana</i> . <i>Plant Molecular Biology</i> , 1996, 30, 419-426.	2.0	48
67	Structural insights into RNA-dependent eukaryal and archaeal selenocysteine formation. <i>Nucleic Acids Research</i> , 2007, 36, 1187-1199.	6.5	48
68	Emergent rules for codon choice elucidated by editing rare arginine codons in <i>Escherichia coli</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, E5588-97.	3.3	48
69	Molecular analysis of three maize 22 kDa auxin-binding protein genes - transient promoter expression and regulatory regions. <i>Plant Journal</i> , 1993, 4, 423-432.	2.8	47
70	A synthetic tRNA for EF-Tu mediated selenocysteine incorporation <i>in vivo</i> and <i>in vitro</i> . <i>FEBS Letters</i> , 2015, 589, 2194-2199.	1.3	47
71	A Facile Method for Producing Selenocysteine-Containing Proteins. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 7215-7219.	7.2	47
72	Initiation of Protein Synthesis with Non-Canonical Amino Acids <i>In Vivo</i> . <i>Angewandte Chemie - International Edition</i> , 2020, 59, 3122-3126.	7.2	43

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73	The heterotrimeric <i>Thermus thermophilus</i> Asp-tRNA ^{Asn} amidotransferase can also generate Gln-tRNA ^{Gln} . <i>FEBS Letters</i> , 2000, 476, 140-144.	1.3	41
74	Archaeal Aminoacyl-tRNA Synthesis: Diversity Replaces Dogma. <i>Genetics</i> , 1999, 152, 1269-1276.	1.2	40
75	Transfer RNA Misidentification Scrambles Sense Codon Recoding. <i>ChemBioChem</i> , 2013, 14, 1967-1972.	1.3	39
76	Genetic Encoding of Three Distinct Noncanonical Amino Acids Using Reprogrammed Initiator and Nonsense Codons. <i>ACS Chemical Biology</i> , 2021, 16, 766-774.	1.6	39
77	N-(purin-6-ylcarbamoyl)threonine: Biosynthesis in vitro in transfer RNA by an enzyme purified from <i>Escherichia coli</i> . <i>FEBS Letters</i> , 1974, 39, 301-306.	1.3	38
78	Recent Studies of RNase P+. , 0, , 67-78.		38
79	Engineering posttranslational proofreading to discriminate nonstandard amino acids. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 619-624.	3.3	37
80	Mechanistic insights into the slow peptide bond formation with D-amino acids in the ribosomal active site. <i>Nucleic Acids Research</i> , 2019, 47, 2089-2100.	6.5	36
81	Identification and codon reading properties of 5-cyanomethyl uridine, a new modified nucleoside found in the anticodon wobble position of mutant haloarchaeal isoleucine tRNAs. <i>Rna</i> , 2014, 20, 177-188.	1.6	35
82	Initiator tRNAs and Initiation of Protein Synthesis. , 0, , 511-528.		35
83	Exploring the Substrate Range of Wild-Type Aminoacyl-tRNA Synthetases. <i>ChemBioChem</i> , 2014, 15, 1805-1809.	1.3	34
84	Efficient Reassignment of a Frequent Serine Codon in Wild-Type <i>Escherichia coli</i> . <i>ACS Synthetic Biology</i> , 2016, 5, 163-171.	1.9	34
85	A dual-specific Glu-tRNA ^{Gln} and Asp-tRNA ^{Asn} amidotransferase is involved in decoding glutamine and asparagine codons in <i>Acidithiobacillus ferrooxidans</i> . <i>FEBS Letters</i> , 2001, 500, 129-131.	1.3	33
86	Structure of the <i>Pseudomonas aeruginosa</i> transamidosome reveals unique aspects of bacterial tRNA-dependent asparagine biosynthesis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 382-387.	3.3	33
87	The sup8 tRNA ^{Leu} gene of <i>Schizosaccharomyces pombe</i> has an unusual intervening sequence and reduced pairing in the anticodon stem. <i>Molecular Genetics and Genomics</i> , 1984, 197, 447-452.	2.4	32
88	A Mutant <i>Escherichia coli</i> Tyrosyl-tRNA Synthetase Utilizes the Unnatural Amino Acid Azatyrosine More Efficiently than Tyrosine. <i>Journal of Biological Chemistry</i> , 2000, 275, 40324-40328.	1.6	32
89	Divergence of selenocysteine tRNA recognition by archaeal and eukaryotic O ⁶ -phosphoseryl-tRNA ^{Sec} kinase. <i>Nucleic Acids Research</i> , 2008, 36, 1871-1880.	6.5	32
90	Archaeal Tuc1/Ncs6 Homolog Required for Wobble Uridine tRNA Thiolation Is Associated with Ubiquitin-Proteasome, Translation, and RNA Processing System Homologs. <i>PLoS ONE</i> , 2014, 9, e99104.	1.1	32

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91	The Selenocysteine-Inserting tRNA Species: Structure and Function. , 0, , 529-544.		32
92	Substrate structural requirements of Schizosaccharomyces pombe RNase P. FEBS Letters, 1989, 251, 84-88.	1.3	30
93	Dual Targeting of a tRNA ^{Asp} Requires Two Different Aspartyl-tRNA Synthetases in Trypanosoma brucei. Journal of Biological Chemistry, 2009, 284, 16210-16217.	1.6	30
94	Pyrrolysyl-tRNA synthetase variants reveal ancestral aminoacylation function. FEBS Letters, 2013, 587, 3243-3248.	1.3	30
95	Error-prone protein synthesis in parasites with the smallest eukaryotic genome. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E6245-E6253.	3.3	30
96	Transcription of Eukaryotic tRNA Genes. , 0, , 31-50.		30
97	Organization of ribosomal DNA in yellow lupine (Lupinus luteus) and sequence of the 5.8 S RNA gene. FEBS Letters, 1983, 152, 241-246.	1.3	29
98	Identification of a 100-kDa protein associated with nuclear ribonuclease P activity in Schizosaccharomyces pombe. FEBS Journal, 1993, 217, 501-507.	0.2	29
99	Aminoacyl-tRNA Synthetases: Occurrence, Structure, and Function. , 0, , 251-292.		29
100	The Human Genome Project: a paradigm for information management in the life sciences. FASEB Journal, 1991, 5, 35-39.	0.2	28
101	The genetic code - Thawing the "frozen accident"™. Journal of Biosciences, 2006, 31, 459-463.	0.5	28
102	Using Genetic Code Expansion for Protein Biochemical Studies. Frontiers in Bioengineering and Biotechnology, 2020, 8, 598577.	2.0	28
103	Yeast seryl-tRNA synthetase expressed in Escherichia coli recognizes bacterial serine-specific tRNAs in vivo. FEBS Journal, 1993, 214, 869-877.	0.2	27
104	Escherichia coli Tryptophanyl-tRNA Synthetase Mutants Selected for Tryptophan Auxotrophy Implicate the Dimer Interface in Optimizing Amino Acid Binding. Biochemistry, 1996, 35, 32-40.	1.2	27
105	Cysteinyl-tRNA formation: the last puzzle of aminoacyl-tRNA synthesis. FEBS Letters, 1999, 462, 302-306.	1.3	27
106	The central role of tRNA in genetic code expansion. Biochimica Et Biophysica Acta - General Subjects, 2017, 1861, 3001-3008.	1.1	27
107	tRNA Sequences and Variations in the Genetic Code. , 0, , 225-250.		27
108	Methanococcus jannaschii Prolyl-Cysteinyl-tRNA Synthetase Possesses Overlapping Amino Acid Binding Sites. Biochemistry, 2001, 40, 46-52.	1.2	26

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109	Transfer RNAs with novel cloverleaf structures. <i>Nucleic Acids Research</i> , 2017, 45, gkw898.	6.5	26
110	Challenges of site-specific selenocysteine incorporation into proteins by <i>Escherichia coli</i> . <i>RNA Biology</i> , 2018, 15, 461-470.	1.5	26
111	Structural basis of reverse nucleotide polymerization. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 20970-20975.	3.3	25
112	Aminoacyl-tRNA Synthetases and tRNAs for an Expanded Genetic Code: What Makes them Orthogonal?. <i>International Journal of Molecular Sciences</i> , 2019, 20, 1929.	1.8	25
113	Multiplex suppression of four quadruplet codons via tRNA directed evolution. <i>Nature Communications</i> , 2021, 12, 5706.	5.8	25
114	Loss of protein synthesis quality control in host-restricted organisms. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E11505-E11512.	3.3	24
115	Naturally Occurring tRNAs With Non-canonical Structures. <i>Frontiers in Microbiology</i> , 2020, 11, 596914.	1.5	24
116	Small RNA Oligonucleotide Substrates for Specific Aminoacylations. , 0, , 349-370.		24
117	Pyrolysyl-tRNA Synthetase, an Aminoacyl-tRNA Synthetase for Genetic Code Expansion. <i>Croatica Chemica Acta</i> , 2016, 89, 163-174.	0.1	24
118	A one-step method for in vitro production of tRNA transcripts. <i>Nucleic Acids Research</i> , 2002, 30, 105e-105.	6.5	23
119	Change of tRNA identity leads to a divergent orthogonal histidyl-tRNA synthetase/tRNA ^{His} pair. <i>Nucleic Acids Research</i> , 2011, 39, 2286-2293.	6.5	23
120	Dual Genetic Encoding of Acetyl-Lysine and Non-deacetylable Thioacetyl-Lysine Mediated by Flexizyme. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 4083-4086.	7.2	23
121	Engineered Aminoacyl-tRNA Synthetases with Improved Selectivity toward Noncanonical Amino Acids. <i>ACS Chemical Biology</i> , 2019, 14, 603-612.	1.6	23
122	tRNA on the Ribosome: a Waggle Theory. , 0, , 443-469.		23
123	Bacterial Aminoacyl-tRNA Synthetases: Genes and Regulation of Expression. , 0, , 293-333.		22
124	Crystal structures of the human elongation factor eEFSec suggest a non-canonical mechanism for selenocysteine incorporation. <i>Nature Communications</i> , 2016, 7, 12941.	5.8	22
125	Muller's Ratchet and Ribosome Degeneration in the Obligate Intracellular Parasites Microsporidia. <i>International Journal of Molecular Sciences</i> , 2018, 19, 4125.	1.8	22
126	The RNA component of RNase P in <i>Schizosaccharomyces</i> species. <i>FEBS Letters</i> , 1990, 271, 189-193.	1.3	21

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127	Probing the active site tryptophan of Staphylococcus aureus thioredoxin with an analog. Nucleic Acids Research, 2015, 43, 11061-11067.	6.5	21
128	Structure and Expression of Prokaryotic tRNA Genes. , 0, , 17-30.		21
129	tRNA specificity of a mischarging aminoacyl-tRNA synthetase: Glutamyl-tRNA synthetase from barley chloroplasts. FEBS Letters, 1988, 228, 241-244.	1.3	20
130	RNA-Dependent Cysteine Biosynthesis in Bacteria and Archaea. MBio, 2017, 8, .	1.8	20
131	Splicing of tRNA Precursors. , 0, , 79-92.		20
132	The Terminal Adenosine of tRNA ^{Gln} Mediates tRNA-Dependent Amino Acid Recognition by Glutamyl-tRNA Synthetase. Biochemistry, 1998, 37, 9836-9842.	1.2	19
133	Exploiting evolutionary trade-offs for posttreatment management of drug-resistant populations. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 17924-17931.	3.3	19
134	tRNA Processing Nucleases. , 0, , 51-65.		19
135	A cysteinyl-tRNA synthetase variant confers resistance against selenite toxicity and decreases selenocysteine misincorporation. Journal of Biological Chemistry, 2019, 294, 12855-12865.	1.6	18
136	Hijacking Translation Initiation for Synthetic Biology. ChemBioChem, 2020, 21, 1387-1396.	1.3	18
137	Translational Suppression: When Two Wrongs DO Make a Right. , 0, , 491-509.		18
138	Dimer-Dimer Interaction of the Bacterial Selenocysteine Synthase SelA Promotes Functional Active-Site Formation and Catalytic Specificity. Journal of Molecular Biology, 2014, 426, 1723-1735.	2.0	17
139	Ancient translation factor is essential for tRNA-dependent cysteine biosynthesis in methanogenic archaea. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 10520-10525.	3.3	17
140	Archaeal Ribosomal Proteins Possess Nuclear Localization Signal-Type Motifs: Implications for the Origin of the Cell Nucleus. Molecular Biology and Evolution, 2020, 37, 124-133.	3.5	17
141	tRNA Discrimination in Aminoacylation. , 0, , 371-394.		17
142	The putative tRNA 2-thiouridine synthetase Ncs6 is an essential sulfur carrier in Methanococcus marisaludis. FEBS Letters, 2014, 588, 873-877.	1.3	16
143	Engineering aminoacyl-tRNA synthetases for use in synthetic biology. The Enzymes, 2020, 48, 351-395.	0.7	16
144	Directed Evolution of Methanomethylophilus alvus Pyrrolysyl-tRNA Synthetase Generates a Hyperactive and Highly Selective Variant. Frontiers in Molecular Biosciences, 2022, 9, 850613.	1.6	16

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145	Transfer RNA function and evolution. <i>RNA Biology</i> , 2018, 15, 423-426.	1.5	15
146	Plasticity and Constraints of tRNA Aminoacylation Define Directed Evolution of Aminoacyl-tRNA Synthetases. <i>International Journal of Molecular Sciences</i> , 2019, 20, 2294.	1.8	15
147	tRNA-Like Structures in Plant Viral RNAs. , 0, , 141-163.		15
148	Arrangement of the ribosomal RNA genes in <i>Schizosaccharomyces pombe</i> . <i>FEBS Letters</i> , 1982, 143, 129-132.	1.3	14
149	Selective cysteine-to-selenocysteine changes in a [NiFe]-hydrogenase confirm a special position for catalysis and oxygen tolerance. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	14
150	Discontinuous Triplet Decoding with or without Re-Pairing by Peptidyl tRNA. , 0, , 471-490.		14
151	Glutamyl-tRNA synthetase: from genetics to molecular recognition. <i>Genes To Cells</i> , 1996, 1, 421-427.	0.5	13
152	Reducing the genetic code induces massive rearrangement of the proteome. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 17206-17211.	3.3	13
153	Bioinformatic Analysis Reveals Archaeal tRNA ^{Tyr} and tRNA ^{Trp} Identities in Bacteria. <i>Life</i> , 2017, 7, 8.	1.1	13
154	The tRNA Identity Problem: Past, Present, and Future. , 0, , 335-347.		13
155	Measuring the tolerance of the genetic code to altered codon size. <i>ELife</i> , 2022, 11, .	2.8	13
156	Temperature dependence of the aminoacylation of tRNA by <i>Bacillus stearothermophilus</i> aminoacyl-tRNA synthetases. <i>Biopolymers</i> , 1971, 10, 2209-2221.	1.2	12
157	Organelle tRNAs: Biosynthesis and Function. , 0, , 127-140.		12
158	Simplified in vitro synthesis of mutated RNA molecules. <i>FEBS Letters</i> , 1987, 212, 271-275.	1.3	11
159	C-terminal truncation of yeast SerRS is toxic for <i>Saccharomyces cerevisiae</i> due to altered mechanism of substrate recognition. <i>FEBS Letters</i> , 1998, 439, 235-240.	1.3	11
160	Versatility of Synthetic tRNAs in Genetic Code Expansion. <i>Genes</i> , 2018, 9, 537.	1.0	11
161	Introducing Selenocysteine into Recombinant Proteins in <i>Escherichia coli</i> . <i>Current Protocols</i> , 2021, 1, e54.	1.3	11
162	Recognition of Aminoacyl-tRNAs by Protein Elongation Factors. , 0, , 423-442.		11

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163	Homologous Expression and Purification of Mutants of an Essential Protein by Reverse Epitope-Tagging. <i>Nature Biotechnology</i> , 1996, 14, 50-55.	9.4	10
164	Retracing the evolution of amino acid specificity in glutamyl-tRNA synthetase. <i>FEBS Letters</i> , 1998, 434, 149-154.	1.3	10
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