Ya-Ming Hou

List of Publications by Year
in descending order

143 papers	5,185 citations	101543 36 h-index	118850 62 g-index
153 all docs	153 docs citations	153 times ranked	4715 citing authors

#	Article	IF	Citations
1	A simple structural feature is a major determinant of the identity of a transfer RNA. Nature, 1988, 333, 140-145.	27.8	620
2	AlkB Restores the Biological Function of mRNA and tRNA Inactivated by Chemical Methylation. Molecular Cell, 2004, 16, 107-116.	9.7	179
3	Compound Heterozygosity for Loss-of-Function Lysyl-tRNA Synthetase Mutations in a Patient with Peripheral Neuropathy. American Journal of Human Genetics, 2010, 87, 560-566.	6.2	169
4	Genes adopt nonâ€optimal codon usage to generate cell cycleâ€dependent oscillations in protein levels. Molecular Systems Biology, 2012, 8, 572.	7.2	111
5	Distinct Kinetic Mechanisms of the Two Classes of Aminoacyl-tRNA Synthetases. Journal of Molecular Biology, 2006, 361, 300-311.	4.2	100
6	Methods for kinetic and thermodynamic analysis of aminoacyl-tRNA synthetases. Methods, 2008, 44, 100-118.	3.8	98
7	A Recurrent loss-of-function alanyl-tRNA synthetase (AARSâ€‰) mutation in patients with charcot-marie-tooth disease type 2N (CMT2N). Human Mutation, 2012, 33, 244-253.	2.5	90
8	Distinct Determinants of tRNA Recognition by the TrmD and Trm5 Methyl Transferases. Journal of Molecular Biology, 2007, 373, 623-632.	4.2	89
9	The Archetype Î³-Class Carbonic Anhydrase (Cam) Contains Iron When Synthesized in Vivo. Biochemistry, 2009, 48, 817-819.	2.5	85
10	Structural origins of amino acid selection without editing by cysteinyl-tRNA synthetase. EMBO Journal, 2002, 21, 2778-2787.	7.8	84
11	Loss-of-Function Alanyl-tRNA Synthetase Mutations Cause an Autosomal-Recessive Early-Onset Epileptic Encephalopathy with Persistent Myelination Defect. American Journal of Human Genetics, 2015, 96, 675-681.	6.2	84
12	Shape-selective RNA recognition by cysteinyl-tRNA synthetase. Nature Structural and Molecular Biology, 2004, 11, 1134-1141.	8.2	83
13	The selective tRNA aminoacylation mechanism based on a single Gâ€¢U pair. Nature, 2014, 510, 507-511.	27.8	80
14	Maintenance of protein synthesis reading frame by EF-P and m1G37-tRNA. Nature Communications, 2015, 6, 7226.	12.8	78
15	Aminoacyl-tRNA synthetases: Versatile players in the changing theater of translation. Rna, 2002, 8, 1363-1372.	3.5	74
16	Distinct Origins of tRNA(m1G37) Methyltransferase. Journal of Molecular Biology, 2004, 339, 707-719.	4.2	74
17	Methyl transfer by substrate signaling from a knotted protein fold. Nature Structural and Molecular Biology, 2016, 23, 941-948.	8.2	74
18	Transfer RNAs and pathogenicity islands. Trends in Biochemical Sciences, 1999, 24, 295-298.	7.5	72

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19	Incorporation of Tellurocysteine into Glutathione Transferase Generates High Glutathione Peroxidase Efficiency. Angewandte Chemie - International Edition, 2009, 48, 2020-2023.	13.8	69
20	Allosteric Communication in Cysteinyl tRNA Synthetase. Journal of Biological Chemistry, 2011, 286, 37721-37731.	3.4	68
21	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
22	Aminoacylation of tRNA with phosphoserine for synthesis of cysteinyl-tRNACys. Nature Structural and Molecular Biology, 2008, 15, 507-514.	8.2	64
23	CCA addition to tRNA: Implications for tRNA quality control. IUBMB Life, 2010, 62, 251-260.	3.4	64
24	Transcriptionâ€“translation coupling: direct interactions of RNA polymerase with ribosomes and ribosomal subunits. Nucleic Acids Research, 2017, 45, 11043-11055.	14.5	64
25	Enzymic Aminoacylation of tRNA Acceptor Stem Helixes with Cysteine Is Dependent on a Single Nucleotide. Biochemistry, 1995, 34, 6527-6532.	2.5	60
26	Structural basis for methyl-donorâ€“dependent and sequence-specific binding to tRNA substrates by knotted methyltransferase TrmD. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E4197-205.	7.1	54
27	Mg ²⁺ regulates transcription of mgtA in Salmonella Typhimurium via translation of proline codons during synthesis of the MgtL peptide. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 15096-15101.	7.1	52
28	Impaired Function is a Common Feature of Neuropathy-Associated Glycyl-tRNA Synthetase Mutations. Human Mutation, 2014, 35, n/a-n/a.	2.5	51
29	Zinc-mediated Amino Acid Discrimination in Cysteinyl-tRNA Synthetase. Journal of Molecular Biology, 2003, 327, 911-917.	4.2	48
30	Rapid ribosomal translocation depends on the conserved 18-55 base pair in P-site transfer RNA. Nature Structural and Molecular Biology, 2006, 13, 354-359.	8.2	48
31	Allele-specific RNA interference prevents neuropathy in Charcot-Marie-Tooth disease type 2D mouse models. Journal of Clinical Investigation, 2019, 129, 5568-5583.	8.2	47
32	Synthesis of Cysteinyl-tRNACysby a Genome That Lacks the Normal Cysteine-tRNA Synthetaseâ€. Biochemistry, 2000, 39, 7792-7798.	2.5	44
33	Time-resolved cryo-EM visualizes ribosomal translocation with EF-G and GTP. Nature Communications, 2021, 12, 7236.	12.8	43
34	A novelHSD17B10mutation impairing the activities of the mitochondrial RNase P complex causes X-linked intractable epilepsy and neurodevelopmental regression. RNA Biology, 2016, 13, 477-485.	3.1	42
35	Indirect Readout of tRNA for Aminoacylation. Biochemistry, 2007, 46, 10419-10432.	2.5	41
36	tRNA Methylation Is a Global Determinant of Bacterial Multi-drug Resistance. Cell Systems, 2019, 8, 302-314.e8.	6.2	41

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37	Control of Catalytic Cycle by a Pair of Analogous tRNA Modification Enzymes. Journal of Molecular Biology, 2010, 400, 204-217.	4.2	40
38	tRNA Integrity Is a Prerequisite for Rapid CCA Addition: Implication for Quality Control. Journal of Molecular Biology, 2008, 379, 579-588.	4.2	39
39	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
40	Amino acidâ€“dependent stability of the acyl linkage in aminoacyl-tRNA. Rna, 2014, 20, 758-764.	3.5	37
41	Stereochemical mechanisms of tRNA methyltransferases. FEBS Letters, 2010, 584, 278-286.	2.8	36
42	Post-transcriptional modifications to tRNAâ€”a response to the genetic code degeneracy. Rna, 2015, 21, 642-644.	3.5	36
43	Fluorescent labeling of tRNAs for dynamics experiments. Rna, 2007, 13, 1594-1601.	3.5	35
44	Mechanism of N-methylation by the tRNA m1G37 methyltransferase Trm5. Rna, 2010, 16, 2484-2492.	3.5	35
45	A role for SUMO in nucleotide excision repair. DNA Repair, 2011, 10, 1243-1251.	2.8	35
46	Unusual synthesis by the Escherichia coli CCA-adding enzyme. Rna, 2000, 6, 1031-1043.	3.5	34
47	Differentiating analogous tRNA methyltransferases by fragments of the methyl donor. Rna, 2011, 17, 1236-1246.	3.5	33
48	Conservation of structure and mechanism by Trm5 enzymes. Rna, 2013, 19, 1192-1199.	3.5	33
49	An RNA Structural Determinant for tRNA Recognitionâ€. Biochemistry, 1997, 36, 7967-7972.	2.5	32
50	Poly(C) Synthesis by Class I and Class II CCA-Adding Enzymes. Biochemistry, 2002, 41, 4521-4532.	2.5	32
51	The Catalytic Domain of Topological Knot tRNA Methyltransferase (TrmH) Discriminates between Substrate tRNA and Nonsubstrate tRNA via an Induced-fit Process. Journal of Biological Chemistry, 2013, 288, 25562-25574.	3.4	32
52	Structural Elements that Contribute to an Unusual Tertiary Interaction in a Transfer RNA. Biochemistry, 1994, 33, 4677-4681.	2.5	31
53	A dual-targeted aminoacyl-tRNA synthetase in Plasmodium falciparum charges cytosolic and apicoplast tRNACys. Biochemical Journal, 2014, 458, 513-523.	3.7	31
54	Discriminating among the discriminator bases of tRNAs. Chemistry and Biology, 1997, 4, 93-96.	6.0	30

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55	Apoptotic regulation and tRNA. Protein and Cell, 2010, 1, 795-801.	11.0	30
56	The UGG Isoacceptor of tRNAPro Is Naturally Prone to Frameshifts. International Journal of Molecular Sciences, 2015, 16, 14866-14883.	4.1	30
57	Compound heterozygosity for loss-of-functionGARSvariants results in a multisystem developmental syndrome that includes severe growth retardation. Human Mutation, 2017, 38, 1412-1420.	2.5	30
58	Catalysis by the Second Class of tRNA(m1G37) Methyl Transferase Requires A Conserved Proline. Biochemistry, 2006, 45, 7463-7473.	2.5	29
59	Recognition of guanosine by dissimilar tRNA methyltransferases. Rna, 2012, 18, 1687-1701.	3.5	29
60	Expression of the mouse metallothionein-I gene in Escherichia coli: Increased tolerance to heavy metals. Biochimica Et Biophysica Acta Gene Regulatory Mechanisms, 1988, 951, 230-234.	2.4	28
61	Amino Acid Discrimination by a Highly Differentiated Metal Center of an Aminoacyl-tRNA Synthetase. Biochemistry, 2003, 42, 10931-10937.	2.5	28
62	Molecular dissection of a transfer RNA and the basis for its identity. Trends in Biochemical Sciences, 1989, 14, 233-237.	7.5	27
63	Evidence for a Four-Strand Exchange Catalyzed by the RecA Protein. Biochemistry, 2000, 39, 15272-15281.	2.5	26
64	Divergent Adaptation of tRNA Recognition byMethanococcus jannaschii Prolyl-tRNA Synthetase. Journal of Biological Chemistry, 2001, 276, 20286-20291.	3.4	26
65	An important 2'-OH group for an RNA-protein interaction. Nucleic Acids Research, 2001, 29, 976-985.	14.5	26
66	A Divalent Metal Ion-Dependent N 1 -Methyl Transfer to G37-tRNA. Chemistry and Biology, 2014, 21, 1351-1360.	6.0	26
67	Insights into genome recoding from the mechanism of a classic +1-frameshifting tRNA. Nature Communications, 2021, 12, 328.	12.8	26
68	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
69	Stabilization of Cyclin-Dependent Kinase 4 by Methionyl-tRNA Synthetase in p16^{INK4a}-Negative Cancer. ACS Pharmacology and Translational Science, 2018, 1, 21-31.	4.9	25
70	Kinetic Quality Control of Anticodon Recognition by a Eukaryotic Aminoacyl-tRNA Synthetase. Journal of Molecular Biology, 2007, 367, 1063-1078.	4.2	24
71	TrmD. The Enzymes, 2017, 41, 89-115.	1.7	24
72	Association of an Aminoacyl-tRNA Synthetase with a Putative Metabolic Protein in Archaea. Biochemistry, 2003, 42, 7487-7496.	2.5	23

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73	Perturbation of the tRNA Tertiary Core Differentially Affects Specific Steps of the Elongation Cycle. Journal of Biological Chemistry, 2008, 283, 18431-18440.	3.4	23
74	Probing a tRNA core that contributes to aminoacylation. Journal of Molecular Biology, 2000, 295, 777-789.	4.2	22
75	Hypermorphic and hypomorphic AARS alleles in patients with CMT2N expand clinical and molecular heterogeneities. Human Molecular Genetics, 2018, 27, 4036-4050.	2.9	22
76	Strand Invasion of Supercoiled DNA by Oligonucleotides with a Triplex Guide Sequence. Journal of the American Chemical Society, 1998, 120, 2182-2183.	13.7	21
77	Misacylation and Editing by Escherichia coli Valyl-tRNA Synthetase:â€‰ Evidence for Two tRNA Binding Sites. Biochemistry, 2001, 40, 8118-8125.	2.5	21
78	Domainâ^'Domain Communication for tRNA Aminoacylation:Â The Importance of Covalent Connectivityâ€. Biochemistry, 2005, 44, 7240-7249.	2.5	21
79	Enzymatic synthesis of structure-free DNA with pseudo-complementary properties. Nucleic Acids Research, 2008, 36, 3409-3419.	14.5	21
80	Potential for interdependent development of tRNA determinants for aminoacylation and ribosome decoding. Nature Communications, 2011, 2, 329.	12.8	21
81	Conservation of a tRNA core for aminoacylation. Nucleic Acids Research, 1999, 27, 4743-4750.	14.5	20
82	Alternative design of a tRNA core for aminoacylation 1 1Edited by D. Draper. Journal of Molecular Biology, 2000, 303, 503-514.	4.2	20
83	Regulation of Cell Death by Transfer RNA. Antioxidants and Redox Signaling, 2013, 19, 583-594.	5.4	20
84	Selective terminal methylation of a tRNA wobble base. Nucleic Acids Research, 2018, 46, e37-e37.	14.5	20
85	The Temperature Sensitivity of a Mutation in the Essential tRNA Modification Enzyme tRNA Methyltransferase D (TrmD). Journal of Biological Chemistry, 2013, 288, 28987-28996.	3.4	19
86	tRNAArg-Derived Fragments Can Serve as Arginine Donors for Protein Arginylation. Cell Chemical Biology, 2020, 27, 839-849.e4.	5.2	19
87	Pyrrolo-C as a molecular probe for monitoring conformations of the tRNA 3â€² end. Rna, 2008, 14, 2245-2253.	3.5	18
88	An Archaeal Aminoacyl-tRNA Synthetase Missing from Genomic Analysis. Journal of Bacteriology, 1999, 181, 5880-5884.	2.2	18
89	Modified Bases in RNA Reduce Secondary Structure and Enhance Hybridizationâ€. Biochemistry, 2004, 43, 10224-10236.	2.5	17
90	Breaking the Stereo Barrier of Amino Acid Attachment to tRNA by a Single Nucleotide. Journal of Molecular Biology, 2005, 348, 513-521.	4.2	17

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91	tRNA 3â€²-amino-tailing for stable amino acid attachment. Rna, 2018, 24, 1878-1885.	3.5	17
92	Codon-Specific Translation by m1G37 Methylation of tRNA. Frontiers in Genetics, 2018, 9, 713.	2.3	17
93	Loss of N1-methylation of G37 in tRNA induces ribosome stalling and reprograms gene expression. ELife, 2021, 10, .	6.0	17
94	Isolation of a site-specifically modified RNA from an unmodified transcript. Nucleic Acids Research, 2006, 34, e21-e21.	14.5	16
95	Interplay between an ATP-binding cassette F protein and the ribosome from Mycobacterium tuberculosis. Nature Communications, 2022, 13, 432.	12.8	16
96	Metal-Ion-Dependent Catalysis and Specificity of CCA-Adding Enzymes:â€‰ A Comparison of Two Classes. Biochemistry, 2005, 44, 12849-12859.	2.5	15
97	Acquisition of an Insertion Peptide for Efficient Aminoacylation by a Halophile tRNA Synthetase. Biochemistry, 2006, 45, 6835-6845.	2.5	15
98	Distinct kinetic determinants for the stepwise CCA addition to tRNA. Rna, 2009, 15, 1827-1836.	3.5	15
99	Mg²⁺-Dependent Methyl Transfer by a Knotted Protein: A Molecular Dynamics Simulation and Quantum Mechanics Study. ACS Catalysis, 2020, 10, 8058-8068.	11.2	15
100	Structural basis for +1 ribosomal frameshifting during EF-G-catalyzed translocation. Nature Communications, 2021, 12, 4644.	12.8	15
101	Molecular Basis and Consequences of the Cytochrome c-tRNA Interaction. Journal of Biological Chemistry, 2016, 291, 10426-10436.	3.4	14
102	A genetically encoded fluorescent tRNA is active in live-cell protein synthesis. Nucleic Acids Research, 2017, 45, 4081-4093.	14.5	13
103	<scp>tRNA</scp> methylation: An unexpected link to bacterial resistance and persistence to antibiotics and beyond. Wiley Interdisciplinary Reviews RNA, 2020, 11, e1609.	6.4	13
104	A strategy of tRNA recognition that includes determinants of RNA structure. Bioorganic and Medicinal Chemistry, 1997, 5, 1011-1019.	3.0	12
105	Properties of pseudo-complementary DNA substituted with weakly pairing analogs of guanine or cytosine. Nucleic Acids Research, 2008, 36, 6999-7008.	14.5	12
106	Deacetylation of HSD17B10 by SIRT3 regulates cell growth and cell resistance under oxidative and starvation stresses. Cell Death and Disease, 2020, 11, 563.	6.3	12
107	A tRNA circularization assay: Evidence for the variation of the conformation of the CCA end. Rna, 1998, 4, 733-738.	3.5	11
108	Recognition of tRNA Backbone for Aminoacylation with Cysteine: Evolution from Escherichia coli to Human. Journal of Molecular Biology, 2002, 318, 1207-1220.	4.2	11

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109	Adaptation to tRNA acceptor stem structure by flexible adjustment in the catalytic domain of class I tRNA synthetases. Rna, 2012, 18, 213-221.	3.5	11
110	Biochemical Characterization of Pathogenic Mutations in Human Mitochondrial Methionyl-tRNA Formyltransferase. Journal of Biological Chemistry, 2014, 289, 32729-32741.	3.4	11
111	Purification and Use of tRNA for Enzymatic Post-translational Addition of Amino Acids to Proteins. STAR Protocols, 2020, 1, 100207.	1.2	11
112	The tertiary structure of tRNA and the development of the genetic code. Trends in Biochemical Sciences, 1993, 18, 362-364.	7.5	10
113	Permutation of a Pair of Tertiary Nucleotides in a Transfer RNA. Biochemistry, 1995, 34, 2978-2984.	2.5	10
114	Prevention of mis-aminoacylation of a dual-specificity aminoacyl-tRNA synthetase. Journal of Molecular Biology, 2002, 315, 943-949.	4.2	10
115	Unrestricted accessibility of short oligonucleotides to RNA. Rna, 2005, 11, 1441-1447.	3.5	10
116	Fluorophore Labeling to Monitor tRNA Dynamics. Methods in Enzymology, 2009, 469, 69-93.	1.0	10
117	Initiator tRNA genes template the 3â€² CCA end at high frequencies in bacteria. BMC Genomics, 2016, 17, 1003.	2.8	10
118	A Label-Free Assay for Aminoacylation of tRNA. Genes, 2020, 11, 1173.	2.4	10
119	Inhibition of tRNA Aminoacylation by 2â€˜-O-Methyl Oligonucleotidesâ€. Biochemistry, 1996, 35, 15340-15348.	2.5	9
120	Amino acid activation of a dual-specificity tRNA synthetase is independent of tRNA. Journal of Molecular Biology, 2002, 316, 421-427.	4.2	9
121	Pyrophosphorolysis of CCA Addition: Implication for Fidelity. Journal of Molecular Biology, 2011, 414, 28-43.	4.2	9
122	Loss-of-function mutations in Lysyl-tRNA synthetase cause various leukoencephalopathy phenotypes. Neurology: Genetics, 2019, 5, e565.	1.9	9
123	Twice exploration of tRNAÂ+1 frameshifting in an elongation cycle of protein synthesis. Nucleic Acids Research, 2021, 49, 10046-10060.	14.5	9
124	Isolation of Two cDNAs Encoding Functional Human Cytoplasmic Cysteinyl-tRNA Synthetase. Biological Chemistry, 2001, 382, 399-406.	2.5	8
125	A new (old) way of hijacking tRNA. Nature Chemical Biology, 2010, 6, 795-796.	8.0	8
126	Aminoacylation of an unusual tRNACys from an extreme halophile. Rna, 2003, 9, 794-801.	3.5	7

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127	Unrestricted Hybridization of Oligonucleotides to Structure-Free DNA. Biochemistry, 2006, 45, 6978-6986.	2.5	7
128	Effect of Nascent Peptide Steric Bulk on Elongation Kinetics in the Ribosome Exit Tunnel. Journal of Molecular Biology, 2017, 429, 1873-1888.	4.2	7
129	A Mitochondrial <scp>tRNA</scp> Mutation Causes Axonal <scp>CMT</scp> in a Large Venezuelan Family. Annals of Neurology, 2020, 88, 830-842.	5.3	7
130	Evidence for Unfolding of the Single-Stranded GCCA 3â€˜-End of a tRNA on Its Aminoacyl-tRNA Synthetase from a Stacked Helical to a Foldback Conformationâ€. Biochemistry, 2000, 39, 6791-6798.	2.5	6
131	Crystallization and preliminary diffraction analysis ofEscherichia colicysteinyl-tRNA synthetase. Acta Crystallographica Section D: Biological Crystallography, 1999, 55, 1046-1047.	2.5	5
132	RecA-mediated strand invasion of DNA by oligonucleotides substituted with 2-aminoadenine and 2-thiothymine. Nucleic Acids Research, 2008, 36, 6806-6815.	14.5	5
133	Genome Expansion by tRNA +1 Frameshifting at Quadruplet Codons. Journal of Molecular Biology, 2022, 434, 167440.	4.2	5
134	Recognition of functional groups in an RNA helix by a class I tRNA synthetase. Rna, 2000, 6, 922-927.	3.5	4
135	Kinetic Analysis of tRNA Methyltransferases. Methods in Enzymology, 2015, 560, 91-116.	1.0	4
136	A stress-free strategy to correct point mutations in patient iPS cells. Stem Cell Research, 2021, 53, 102332.	0.7	4
137	Synthesis of cysteinyl-tRNACys by a prolyl-tRNA synthetase. RNA Biology, 2004, 1, 35-41.	3.1	4
138	Synthesis of Cysteinyl-tRNACys by A Prolyl-tRNA Synthetase. RNA Biology, 2004, 1, 34-40.	3.1	3
139	High-Purity Enzymatic Synthesis of Site-Specifically Modified tRNA. Methods in Molecular Biology, 2013, 941, 195-212.	0.9	3
140	How to Untie a Protein Knot. Structure, 2019, 27, 1190-1191.	3.3	3
141	Mutational Analysis of a Leucine Heptad Repeat Motif in a Class I Aminoacyl-tRNA Synthetaseâ€. Biochemistry, 1996, 35, 14405-14412.	2.5	2
142	Single-Turnover Kinetics of Methyl Transfer to tRNA by Methyltransferases. Methods in Molecular Biology, 2016, 1421, 79-96.	0.9	1
143	tRNA Methylation Controls Bacterial Multiâ€Ðrug Resistance. FASEB Journal, 2018, 32, 105.1.	0.5	0