Jason W Chin

List of Publications by Year
in descending order

120 papers	17,169 citations	13865 67 h-index	20358 116 g-index
129 all docs	129 docs citations	129 times ranked	11669 citing authors

#	Article	IF	Citations
1	Cellular Incorporation of Unnatural Amino Acids and Bioorthogonal Labeling of Proteins. Chemical Reviews, 2014, 114, 4764-4806.	47.7	861
2	An Expanded Eukaryotic Genetic Code. Science, 2003, 301, 964-967.	12.6	726
3	Addition ofp-Azido-l-phenylalanine to the Genetic Code ofEscherichiacoli. Journal of the American Chemical Society, 2002, 124, 9026-9027.	13.7	655
4	Addition of a photocrosslinking amino acid to the genetic code of Escherichia coli. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 11020-11024.	7.1	617
5	Expanding and reprogramming the genetic code. Nature, 2017, 550, 53-60.	27.8	579
6	Encoding multiple unnatural amino acids via evolution of a quadruplet-decoding ribosome. Nature, 2010, 464, 441-444.	27.8	559
7	Genetically encoding NÎµ-acetyllysine in recombinant proteins. Nature Chemical Biology, 2008, 4, 232-234.	8.0	530
8	Bioorthogonal Reactions for Labeling Proteins. ACS Chemical Biology, 2014, 9, 16-20.	3.4	467
9	Genetic Encoding of Bicyclononynes and <i>trans</i>-Cyclooctenes for Site-Specific Protein Labeling in Vitro and in Live Mammalian Cells via Rapid Fluorogenic Dielsâ€"Alder Reactions. Journal of the American Chemical Society, 2012, 134, 10317-10320.	13.7	456
10	A Method for Genetically Installing Site-Specific Acetylation in Recombinant Histones Defines the Effects of H3 K56 Acetylation. Molecular Cell, 2009, 36, 153-163.	9.7	453
11	Expanding and Reprogramming the Genetic Code of Cells and Animals. Annual Review of Biochemistry, 2014, 83, 379-408.	11.1	425
12	Genetically encoded norbornene directs site-specific cellular protein labelling via a rapid bioorthogonal reaction. Nature Chemistry, 2012, 4, 298-304.	13.6	424
13	Adding Amino Acids with Novel Reactivity to the Genetic Code of Saccharomyces Cerevisiae. Journal of the American Chemical Society, 2003, 125, 11782-11783.	13.7	371
14	Total synthesis of Escherichia coli with a recoded genome. Nature, 2019, 569, 514-518.	27.8	346
15	Designer proteins: applications of genetic code expansion in cell biology. Nature Reviews Molecular Cell Biology, 2012, 13, 168-182.	37.0	313
16	Genetic Encoding and Labeling of Aliphatic Azides and Alkynes in Recombinant Proteins <i>via</i> a Pyrrolysyl-tRNA Synthetase/tRNA_{CUA} Pair and Click Chemistry. Journal of the American Chemical Society, 2009, 131, 8720-8721.	13.7	285
17	Evolved orthogonal ribosomes enhance the efficiency of synthetic genetic code expansion. Nature Biotechnology, 2007, 25, 770-777.	17.5	272
18	Engineered diubiquitin synthesis reveals Lys29-isopeptide specificity of an OTU deubiquitinase. Nature Chemical Biology, 2010, 6, 750-757.	8.0	269

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19	A network of orthogonal ribosomeÂ·mRNA pairs. , 2005, 1, 159-166.		262
20	A genetically encoded fluorescent amino acid. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 9785-9789.	7.1	243
21	Optimized orthogonal translation of unnatural amino acids enables spontaneous protein double-labelling and FRET. Nature Chemistry, 2014, 6, 393-403.	13.6	233
22	Genetically Encoded Photocontrol of Protein Localization in Mammalian Cells. Journal of the American Chemical Society, 2010, 132, 4086-4088.	13.7	232
23	Substrate recognition by the AAA+ chaperone ClpB. Nature Structural and Molecular Biology, 2004, 11, 607-615.	8.2	219
24	Expanding the Genetic Code of an Animal. Journal of the American Chemical Society, 2011, 133, 14196-14199.	13.7	218
25	Efficient Multisite Unnatural Amino Acid Incorporation in Mammalian Cells via Optimized Pyrrolysyl tRNA Synthetase/tRNA Expression and Engineered eRF1. Journal of the American Chemical Society, 2014, 136, 15577-15583.	13.7	216
26	Conformationally strained trans-cyclooctene with improved stability and excellent reactivity in tetrazine ligation. Chemical Science, 2014, 5, 3770-3776.	7.4	201
27	Efficient genetic encoding of phosphoserine and its nonhydrolyzable analog. Nature Chemical Biology, 2015, 11, 496-503.	8.0	189
28	Expanding the Genetic Code of Yeast for Incorporation of Diverse Unnatural Amino Acids via a Pyrrolysyl-tRNA Synthetase/tRNA Pair. Journal of the American Chemical Society, 2010, 132, 14819-14824.	13.7	187
29	Expanding the genetic code of Drosophila melanogaster. Nature Chemical Biology, 2012, 8, 748-750.	8.0	177
30	Traceless and Site-Specific Ubiquitination of Recombinant Proteins. Journal of the American Chemical Society, 2011, 133, 10708-10711.	13.7	161
31	Proteome labeling and protein identification in specific tissues and at specific developmental stages in an animal. Nature Biotechnology, 2014, 32, 465-472.	17.5	161
32	Photo-cross-linking interacting proteins with a genetically encoded benzophenone. Nature Methods, 2005, 2, 377-384.	19.0	154
33	Genetic Code Expansion Enables Live-Cell and Super-Resolution Imaging of Site-Specifically Labeled Cellular Proteins. Journal of the American Chemical Society, 2015, 137, 4602-4605.	13.7	152
34	Genetically Encoding <i>N</i>^{Ïµ}-Methyl-<scp>l</scp>-lysine in Recombinant Histones. Journal of the American Chemical Society, 2009, 131, 14194-14195.	13.7	151
35	Reprogramming the genetic code. Nature Reviews Genetics, 2021, 22, 169-184.	16.3	147
36	Genetically Encoded 1,2-Aminothiols Facilitate Rapid and Site-Specific Protein Labeling via a Bio-orthogonal Cyanobenzothiazole Condensation. Journal of the American Chemical Society, 2011, 133, 11418-11421.	13.7	144

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37	Light-Activated Kinases Enable Temporal Dissection of Signaling Networks in Living Cells. Journal of the American Chemical Society, 2011, 133, 2124-2127.	13.7	143
38	Photocontrol of Tyrosine Phosphorylation in Mammalian Cells via Genetic Encoding of Photocaged Tyrosine. Journal of the American Chemical Society, 2012, 134, 11912-11915.	13.7	140
39	Genetically Encoded Optochemical Probes for Simultaneous Fluorescence Reporting and Light Activation of Protein Function with Two-Photon Excitation. Journal of the American Chemical Society, 2014, 136, 15551-15558.	13.7	137
40	Selective, rapid and optically switchable regulation of protein function in live mammalian cells. Nature Chemistry, 2015, 7, 554-561.	13.6	136
41	In Vivo Photocrosslinking with Unnatural Amino Acid Mutagenesis. ChemBioChem, 2002, 3, 1135-1137.	2.6	135
42	Defining synonymous codon compression schemes by genome recoding. Nature, 2016, 539, 59-64.	27.8	133
43	Genetic code expansion in stable cell lines enables encoded chromatin modification. Nature Methods, 2016, 13, 158-164.	19.0	133
44	Concerted, Rapid, Quantitative, and Site-Specific Dual Labeling of Proteins. Journal of the American Chemical Society, 2014, 136, 7785-7788.	13.7	132
45	Mutually orthogonal pyrrolysyl-tRNA synthetase/tRNA pairs. Nature Chemistry, 2018, 10, 831-837.	13.6	129
46	Molecular basis for ubiquitin and ISG15 cross-reactivity in viral ovarian tumor domains. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 2228-2233.	7.1	124
47	Toward an orthogonal central dogma. Nature Chemical Biology, 2018, 14, 103-106.	8.0	119
48	Synthesis of orthogonal transcription-translation networks. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 8477-8482.	7.1	118
49	Biosynthesis and genetic encoding of phosphothreonine through parallel selection and deep sequencing. Nature Methods, 2017, 14, 729-736.	19.0	109
50	Genetic code expansion in the mouse brain. Nature Chemical Biology, 2016, 12, 776-778.	8.0	107
51	Genetically Encoding Protein Oxidative Damage. Journal of the American Chemical Society, 2008, 130, 4028-4033.	13.7	104
52	Acetylation regulates Cyclophilin A catalysis, immunosuppression and HIV isomerization. Nature Chemical Biology, 2010, 6, 331-337.	8.0	102
53	Concerted Evolution of Structure and Function in a Miniature Protein. Journal of the American Chemical Society, 2001, 123, 2929-2930.	13.7	98
54	Strain-promoted sydnone bicyclo-[6.1.0]-nonyne cycloaddition. Chemical Science, 2014, 5, 1742-1744.	7.4	98

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55	Design and Evolution of a Miniature Bcl-2 Binding Protein. Angewandte Chemie - International Edition, 2001, 40, 3806-3809.	13.8	95
56	Engineered triply orthogonal pyrrolysylâ€"tRNA synthetase/tRNA pairs enable the genetic encoding of three distinct non-canonical amino acids. Nature Chemistry, 2020, 12, 535-544.	13.6	93
57	Sense codon reassignment enables viral resistance and encoded polymer synthesis. Science, 2021, 372, 1057-1062.	12.6	90
58	Progress Toward an Expanded Eukaryotic Genetic Code. Chemistry and Biology, 2003, 10, 511-519.	6.0	83
59	Reprogramming the Genetic Code: From Triplet to Quadruplet Codes. Angewandte Chemie - International Edition, 2012, 51, 2288-2297.	13.8	83
60	Genetically Encoded Light-Activated Transcription for Spatiotemporal Control of Gene Expression and Gene Silencing in Mammalian Cells. Journal of the American Chemical Society, 2013, 135, 13433-13439.	13.7	83
61	Genetically Directing É›-N, N-Dimethyl-l-Lysine in Recombinant Histones. Chemistry and Biology, 2010, 17, 1072-1076.	6.0	82
62	Alcohol-derived DNA crosslinks are repaired by two distinct mechanisms. Nature, 2020, 579, 603-608.	27.8	82
63	Genetically encoding an aliphatic diazirine for protein photocrosslinking. Chemical Science, 2011, 2, 480-483.	7.4	81
64	Acetylation of lysine 120 of p53 endows DNA-binding specificity at effective physiological salt concentration. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 8251-8256.	7.1	81
65	Rapid and Efficient Generation of Stable Antibodyâ€"Drug Conjugates via an Encoded Cyclopropene and an Inverseâ€Electronâ€Demand Dielsâ€"Alder Reaction. Angewandte Chemie - International Edition, 2018, 57, 2831-2834.	13.8	80
66	<i>De Novo</i> Generation of Mutually Orthogonal Aminoacyl-tRNA Synthetase/tRNA Pairs. Journal of the American Chemical Society, 2010, 132, 2142-2144.	13.7	79
67	Controlling orthogonal ribosome subunit interactions enables evolution of new function. Nature, 2018, 564, 444-448.	27.8	79
68	Cellular Logic with Orthogonal Ribosomes. Journal of the American Chemical Society, 2005, 127, 17584-17585.	13.7	78
69	Trapping biosynthetic acyl-enzyme intermediates with encoded 2,3-diaminopropionic acid. Nature, 2019, 565, 112-117.	27.8	78
70	Labeling and identifying cell-specific proteomes in the mouse brain. Nature Biotechnology, 2018, 36, 156-159.	17.5	73
71	Modular approaches to expanding the functions of living matter. Nature Chemical Biology, 2006, 2, 304-311.	8.0	69
72	Rapid discovery and evolution of orthogonal aminoacyl-tRNA synthetaseâ€"tRNA pairs. Nature Biotechnology, 2020, 38, 989-999.	17.5	67

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73	Efficient and Rapid C. elegans Transgenesis by Bombardment and Hygromycin B Selection. PLoS ONE, 2013, 8, e76019.	2.5	66
74	Ribosome Subunit Stapling for Orthogonal Translation in <i>E.</i>â€…<i>coli</i>. Angewandte Chemie - International Edition, 2015, 54, 12791-12794.	13.8	61
75	Intracellular antibody signalling is regulated by phosphorylation of the Fc receptor TRIM21. ELife, 2018, 7, .	6.0	57
76	Mitotic spindle association of TACC3 requires Auroraâ€Aâ€dependent stabilization of a cryptic Î±â€helix. EMBO Journal, 2018, 37, .	7.8	55
77	EGF-dependent re-routing of vesicular recycling switches spontaneous phosphorylation suppression to EGFR signaling. ELife, 2015, 4, .	6.0	55
78	Synthesis of Isomeric Phosphoubiquitin Chains Reveals that Phosphorylation Controls Deubiquitinase Activity and Specificity. Cell Reports, 2016, 16, 1180-1193.	6.4	52
79	Ubiquitination of the Dishevelled DIX domain blocks its head-to-tail polymerization. Nature Communications, 2015, 6, 6718.	12.8	50
80	An Evolved <i>Methanomethylophilus alvus</i> Pyrrolysyl-tRNA Synthetase/tRNA Pair Is Highly Active and Orthogonal in Mammalian Cells. Biochemistry, 2019, 58, 387-390.	2.5	50
81	Encoding optical control in LCK kinase to quantitatively investigate its activity in live cells. Nature Structural and Molecular Biology, 2017, 24, 1155-1163.	8.2	49
82	Cryo-EM structure of MukBEF reveals DNA loop entrapment at chromosomal unloading sites. Molecular Cell, 2021, 81, 4891-4906.e8.	9.7	49
83	Genetically Encoded Protein Phosphorylation in Mammalian Cells. Cell Chemical Biology, 2018, 25, 1067-1074.e5.	5.2	47
84	Reprogramming the Genetic Code. Science, 2012, 336, 428-429.	12.6	45
85	Structural and Mechanistic Insights into the Regulation of the Fundamental Rho Regulator RhoGDIÎ± by Lysine Acetylation. Journal of Biological Chemistry, 2016, 291, 5484-5499.	3.4	45
86	Tagging and Enriching Proteins Enables Cell-Specific Proteomics. Cell Chemical Biology, 2016, 23, 805-815.	5.2	42
87	Efficient Phage Display with Multiple Distinct Nonâ€Canonical Amino Acids Using Orthogonal Ribosomeâ€Mediated Genetic Code Expansion. Angewandte Chemie - International Edition, 2019, 58, 10844-10848.	13.8	41
88	Photoactivation of Mutant Isocitrate Dehydrogenase 2 Reveals Rapid Cancer-Associated Metabolic and Epigenetic Changes. Journal of the American Chemical Society, 2016, 138, 718-721.	13.7	39
89	Ubiquitin C-terminal hydrolases cleave isopeptide- and peptide-linked ubiquitin from structured proteins but do not edit ubiquitin homopolymers. Biochemical Journal, 2015, 466, 489-498.	3.7	38
90	A 68-codon genetic code to incorporate four distinct non-canonical amino acids enabled by automated orthogonal mRNA design. Nature Chemistry, 2021, 13, 1110-1117.	13.6	38

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91	Computationally guided discovery of a reactive, hydrophilic trans-5-oxocene dienophile for bioorthogonal labeling. Organic and Biomolecular Chemistry, 2017, 15, 6640-6644.	2.8	37
92	Programmed chromosome fission and fusion enable precise large-scale genome rearrangement and assembly. Science, 2019, 365, 922-926.	12.6	36
93	Methodology for optimizing functional miniature proteins based on avian pancreatic polypeptide using phage display. Bioorganic and Medicinal Chemistry Letters, 2001, 11, 1501-1505.	2.2	34
94	Programming and engineering biological networks. Current Opinion in Structural Biology, 2006, 16, 551-556.	5.7	34
95	Translational switching of Cry1 protein expression confers reversible control of circadian behavior in arrhythmic Cry-deficient mice. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E12388-E12397.	7.1	31
96	Functional epitopes at the ribosome subunit interface. , 2006, 2, 254-258.		30
97	A conformational sensor based on genetic code expansion reveals an autocatalytic component in EGFR activation. Nature Communications, 2018, 9, 3847.	12.8	29
98	Genetic code expansion and bioorthogonal labelling enables cell specific proteomics in an animal. Current Opinion in Chemical Biology, 2014, 21, 154-160.	6.1	28
99	Detecting RNA base methylations in single cells by in situ hybridization. Nature Communications, 2018, 9, 655.	12.8	28
100	Evolved orthogonal ribosome purification for in vitro characterization. Nucleic Acids Research, 2010, 38, 2682-2691.	14.5	27
101	Reprogramming the genetic code. EMBO Journal, 2011, 30, 2312-2324.	7.8	27
102	Design and Evolution of a Miniature Bcl-2 Binding Protein We thank the HHMI Biopolymer/Keck Foundation Biotechnology Resource Laboratory (Yale University School of Medicine, New Haven, CT) for oligonucleotide and peptide synthesis and amino acid analysis and Professor Jennifer Doudna (Yale University) for use of a Perseptive Voyager-DE (MALDI-TOF) mass spectrometer. We are grateful also to Dr. Junying Yuan and Dr. Alexi Degterev (Harvard Medical School) for a generous gift of Bcl-X(L)-His(6) and Stacey E. R. Angewandte Chemie - International Edition, 2001, 40, 3806-3809.	13.8	26
103	Mechanism-based traps enable protease and hydrolase substrate discovery. Nature, 2022, 602, 701-707.	27.8	25
104	Discovery and Genetic Code Expansion of a Polyethylene Terephthalate (PET) Hydrolase from the Human Saliva Metagenome for the Degradation and Bioâ€Functionalization of PET. Angewandte Chemie - International Edition, 2022, 61, .	13.8	24
105	Ribosome Subunit Stapling for Orthogonal Translation in <i>E.</i>â€…<i>coli</i>. Angewandte Chemie, 2015, 127, 12982-12985.	2.0	20
106	Cryptochrome proteins regulate the circadian intracellular behavior and localization of PER2 in mouse suprachiasmatic nucleus neurons. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	20
107	Rapid and Efficient Generation of Stable Antibodyâ€"Drug Conjugates via an Encoded Cyclopropene and an Inverseâ€Electronâ€Demand Dielsâ€"Alder Reaction. Angewandte Chemie, 2018, 130, 2881-2884.	2.0	19
108	Protein modification via alkyne hydrosilylation using a substoichiometric amount of ruthenium(<scp>ii</scp>) catalyst. Chemical Science, 2017, 8, 3871-3878.	7.4	18

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109	Selective CRAF Inhibition Elicits Transactivation. Journal of the American Chemical Society, 2021, 143, 4600-4606.	13.7	15
110	Creating custom synthetic genomes in Escherichia coli with REXER and GENESIS. Nature Protocols, 2021, 16, 2345-2380.	12.0	11
111	Precise optical control of gene expression in C elegans using improved genetic code expansion and Cre recombinase. ELife, 2021, 10, .	6.0	11
112	Mitotic phosphorylation regulates Hsp72 spindle localization by uncoupling ATP binding from substrate release. Science Signaling, 2018, 11, .	3.6	8
113	Conformational transition of FGFR kinase activation revealed by site-specific unnatural amino acid reporter and single molecule FRET. Scientific Reports, 2017, 7, 39841.	3.3	6
114	Orthogonal Gene Expression in Escherichia coli. Methods in Enzymology, 2011, 497, 115-134.	1.0	4
115	Efficient Phage Display with Multiple Distinct Nonâ€Canonical Amino Acids Using Orthogonal Ribosomeâ€Mediated Genetic Code Expansion. Angewandte Chemie, 2019, 131, 10960-10964.	2.0	4
116	A different life?. Current Opinion in Chemical Biology, 2012, 16, 243-244.	6.1	2
117	Discovery and Genetic Code Expansion of a Polyethylene Terephthalate (PET) Hydrolase from the Human Saliva Metagenome for the Degradation and Bioâ€Functionalization of PET. Angewandte Chemie, 0, , .	2.0	2
118	Journal club. Nature, 2009, 457, 239-239.	27.8	0
119	Frontispiece: Efficient Phage Display with Multiple Distinct Non-Canonical Amino Acids Using Orthogonal Ribosome-Mediated Genetic Code Expansion. Angewandte Chemie - International Edition, 2019, 58, .	13.8	0
120	Frontispiz: Efficient Phage Display with Multiple Distinct Nonâ€Canonical Amino Acids Using Orthogonal Ribosomeâ€Mediated Genetic Code Expansion. Angewandte Chemie, 2019, 131, .	2.0	0