Ryan A Mehl

List of Publications by Year
in descending order

70 papers	3,898 citations	136950 32 h-index	128289 60 g-index
81 all docs	81 docs citations	81 times ranked	4239 citing authors

#	Article	IF	Citations
1	Generation of a Bacterium with a 21 Amino Acid Genetic Code. Journal of the American Chemical Society, 2003, 125, 935-939.	13.7	258
2	Optimized orthogonal translation of unnatural amino acids enables spontaneous protein double-labelling and FRET. Nature Chemistry, 2014, 6, 393-403.	13.6	233
3	Genetically Encoded Tetrazine Amino Acid Directs Rapid Site-Specific <i>in Vivo</i> Bioorthogonal Ligation with <i>trans</i>-Cyclooctenes. Journal of the American Chemical Society, 2012, 134, 2898-2901.	13.7	229
4	ATRP under Biologically Relevant Conditions: Grafting from a Protein. ACS Macro Letters, 2012, 1, 6-10.	4.8	224
5	Conformationally strained trans-cyclooctene with improved stability and excellent reactivity in tetrazine ligation. Chemical Science, 2014, 5, 3770-3776.	7.4	201
6	Site-Specific Incorporation of a19F-Amino Acid into Proteins as an NMR Probe for Characterizing Protein Structure and Reactivity. Journal of the American Chemical Society, 2007, 129, 1160-1166.	13.7	180
7	Preparation of site-specifically labeled fluorinated proteins for 19F-NMR structural characterization. Nature Protocols, 2007, 2, 2601-2607.	12.0	137
8	1,2,4-Triazines Are Versatile Bioorthogonal Reagents. Journal of the American Chemical Society, 2015, 137, 8388-8391.	13.7	123
9	Genetically Encoded Initiator for Polymer Growth from Proteins. Journal of the American Chemical Society, 2010, 132, 13575-13577.	13.7	122
10	Nitration of Hsp90 induces cell death. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E1102-11.	7.1	122
11	Probing Protein Folding Using Site-Specifically Encoded Unnatural Amino Acids as FRET Donors with Tryptophan. Biochemistry, 2009, 48, 5953-5962.	2.5	110
12	Genetically Encoding Protein Oxidative Damage. Journal of the American Chemical Society, 2008, 130, 4028-4033.	13.7	104
13	Ideal Bioorthogonal Reactions Using A Site-Specifically Encoded Tetrazine Amino Acid. Journal of the American Chemical Society, 2015, 137, 10044-10047.	13.7	103
14	Conservation and Functional Importance of Carbonâ€“Oxygen Hydrogen Bonding in AdoMet-Dependent Methyltransferases. Journal of the American Chemical Society, 2013, 135, 15536-15548.	13.7	92
15	Generating Permissive Site-Specific Unnatural Aminoacyl-tRNA Synthetases. Biochemistry, 2010, 49, 1667-1677.	2.5	89
16	Efficient Synthesis and In Vivo Incorporation of Acridon-2-ylalanine, a Fluorescent Amino Acid for Lifetime and FÃ¶rster Resonance Energy Transfer/Luminescence Resonance Energy Transfer Studies. Journal of the American Chemical Society, 2013, 135, 18806-18814.	13.7	86
17	Site-specific Nitration of Apolipoprotein A-I at Tyrosine 166 Is Both Abundant within Human Atherosclerotic Plaque and Dysfunctional. Journal of Biological Chemistry, 2014, 289, 10276-10292.	3.4	84
18	Improving Nature's Enzyme Active Site with Genetically Encoded Unnatural Amino Acids. Journal of the American Chemical Society, 2006, 128, 11124-11127.	13.7	82

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19	Increasing Enzyme Stability and Activity through Hydrogen Bond-Enhanced Halogen Bonds. Biochemistry, 2018, 57, 4135-4147.	2.5	74
20	Covalently incorporated proteinâ€"nanogels using AGET ATRP in an inverse miniemulsion. Polymer Chemistry, 2011, 2, 1476.	3.9	66
21	Cyclopropenones for Metabolic Targeting and Sequential Bioorthogonal Labeling. Journal of the American Chemical Society, 2017, 139, 7370-7375.	13.7	58
22	Well-defined biohybrids using reversible-deactivation radical polymerization procedures. Journal of Controlled Release, 2015, 205, 45-57.	9.9	57
23	Structureâ€"Energy Relationships of Halogen Bonds in Proteins. Biochemistry, 2017, 56, 2794-2802.	2.5	54
24	Structural Basis of Improved Second-Generation 3-Nitro-tyrosine tRNA Synthetases. Biochemistry, 2014, 53, 1916-1924.	2.5	51
25	Enhancing the utility of unnatural amino acid synthetases by manipulating broad substrate specificity. Molecular BioSystems, 2009, 5, 1032.	2.9	50
26	Access to Faster Eukaryotic Cell Labeling with Encoded Tetrazine Amino Acids. Journal of the American Chemical Society, 2020, 142, 7245-7249.	13.7	50
27	Monitoring Replication Protein A (RPA) dynamics in homologous recombination through site-specific incorporation of non-canonical amino acids. Nucleic Acids Research, 2017, 45, 9413-9426.	14.5	43
28	Mechanistic insight into the conserved allosteric regulation of periplasmic proteolysis by the signaling molecule cyclic-di-GMP. ELife, 2014, 3, e03650.	6.0	41
29	Characterization of the Lipid Binding Properties of Otoferlin Reveals Specific Interactions between PI(4,5)P2 and the C2C and C2F Domains. Biochemistry, 2014, 53, 5023-5033.	2.5	39
30	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
31	Immobilization of Proteins with Controlled Load and Orientation. ACS Applied Materials & Interfaces, 2019, 11, 36391-36398.	8.0	36
32	A Proteinâ€"Polymer Hybrid Mediated By DNA. Langmuir, 2012, 28, 1954-1958.	3.5	35
33	Site-Specific Incorporation of Unnatural Amino Acids as Probes for Protein Conformational Changes. Methods in Molecular Biology, 2012, 794, 125-134.	0.9	35
34	Gleaning Unexpected Fruits from Hardâ€Won Synthetases: Probing Principles of Permissivity in Nonâ€canonical Amino Acidâ€"tRNA Synthetases. ChemBioChem, 2014, 15, 1810-1819.	2.6	35
35	Nitration of Hsp90 on Tyrosine 33 Regulates Mitochondrial Metabolism. Journal of Biological Chemistry, 2015, 290, 19055-19066.	3.4	34
36	Incorporation of Non-Canonical Amino Acids. Advances in Experimental Medicine and Biology, 2015, 869, 119-151.	1.6	34

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37	A Highly Versatile Expression System for the Production of Multiply Phosphorylated Proteins. ACS Chemical Biology, 2019, 14, 1564-1572.	3.4	33
38	Cooperative, Reversible Selfâ€Assembly of Covalently Preâ€Linked Proteins into Giant Fibrous Structures. Angewandte Chemie - International Edition, 2014, 53, 8050-8055.	13.8	32
39	Improved Incorporation of Noncanonical Amino Acids by an Engineered tRNA^{Tyr} Suppressor. Biochemistry, 2016, 55, 618-628.	2.5	31
40	Improving target amino acid selectivity in a permissive aminoacyl tRNA synthetase through counter-selection. Organic and Biomolecular Chemistry, 2017, 15, 3603-3610.	2.8	31
41	Genetic Incorporation of Two Mutually Orthogonal Bioorthogonal Amino Acids That Enable Efficient Protein Dual-Labeling in Cells. ACS Chemical Biology, 2021, 16, 2612-2622.	3.4	27
42	Proteinâ€"polymer hybrids: Conducting ARGET ATRP from a genetically encoded cleavable ATRP initiator. European Polymer Journal, 2013, 49, 2919-2924.	5.4	25
43	Manipulating Unconventional CH-Based Hydrogen Bonding in a Methyltransferase via Noncanonical Amino Acid Mutagenesis. ACS Chemical Biology, 2014, 9, 1692-1697.	3.4	23
44	Overcoming Near-Cognate Suppression in a Release Factor 1-Deficient Host with an Improved Nitro-Tyrosine tRNA Synthetase. Journal of Molecular Biology, 2020, 432, 4690-4704.	4.2	23
45	Faster Surface Ligation Reactions Improve Immobilized Enzyme Structure and Activity. Journal of the American Chemical Society, 2021, 143, 7154-7163.	13.7	22
46	Genetically Encoded Protein Tyrosine Nitration in Mammalian Cells. ACS Chemical Biology, 2019, 14, 1328-1336.	3.4	21
47	Doping of Green Fluorescent Protein into Superfluid Helium Droplets: Size and Velocity of Doped Droplets. Journal of Physical Chemistry A, 2017, 121, 6671-6678.	2.5	20
48	A Systematic Investigation of Structure/Function Requirements for the Apolipoprotein A-I/Lecithin Cholesterol Acyltransferase Interaction Loop of High-density Lipoprotein. Journal of Biological Chemistry, 2016, 291, 6386-6395.	3.4	18
49	Genetic encoding of a highly photostable, long lifetime fluorescent amino acid for imaging in mammalian cells. Chemical Science, 2021, 12, 11955-11964.	7.4	16
50	Tyrosine nitration on calmodulin enhances calcium-dependent association and activation of nitric-oxide synthase. Journal of Biological Chemistry, 2020, 295, 2203-2211.	3.4	16
51	Genetic Code Expansion: A Powerful Tool for Understanding the Physiological Consequences of Oxidative Stress Protein Modifications. Oxidative Medicine and Cellular Longevity, 2018, 2018, 1-14.	4.0	14
52	Efficient Site-Specific Prokaryotic and Eukaryotic Incorporation of Halotyrosine Amino Acids into Proteins. ACS Chemical Biology, 2020, 15, 562-574.	3.4	13
53	Unraveling the effects of peroxiredoxin 2 nitration; role of C-terminal tyrosine 193. Free Radical Biology and Medicine, 2019, 141, 492-501.	2.9	12
54	Unnatural Chemical Biology: Research-Based Laboratory Course Utilizing Genetic Code Expansion. Journal of Chemical Education, 2019, 96, 66-74.	2.3	11

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55	An improved fluorescent noncanonical amino acid for measuring conformational distributions using time-resolved transition metal ion FRET. ELife, 2021, 10, .	6.0	11
56	Structural insights into a thermostable variant of human carbonic anhydrase II. Protein Science, 2018, 27, 573-577.	7.6	10
57	Dissecting Optical Response and Molecular Structure of Fluorescent Proteins With Non-canonical Chromophores. Frontiers in Molecular Biosciences, 2020, 7, 131.	3.5	10
58	Peroxynitrite nitration of Tyr 56 in Hsp90 induces PC12Âcell death through P2X7R-dependent PTEN activation. Redox Biology, 2022, 50, 102247.	9.0	10
59	Chemically-defined lactose-based autoinduction medium for site-specific incorporation of non-canonical amino acids into proteins. RSC Advances, 2018, 8, 25558-25567.	3.6	9
60	Temporal Control of Efficient <i>In Vivo</i> Bioconjugation Using a Genetically Encoded Tetrazine-Mediated Inverse-Electron-Demand Dielsâ€“Alder Reaction. Bioconjugate Chemistry, 2020, 31, 2456-2464.	3.6	9
61	Site-Specific Protein Labeling with Tetrazine Amino Acids. Methods in Molecular Biology, 2018, 1728, 201-217.	0.9	8
62	Engineering Heterodimeric Kinesins through Genetic Incorporation of Noncanonical Amino Acids. ACS Chemical Biology, 2018, 13, 2229-2236.	3.4	7
63	Nanobody assemblies with fully flexible topology enabled by genetically encoded tetrazine amino acids. Science Advances, 2022, 8, eabm6909.	10.3	7
64	Engineered Unnatural Animals: Tools for Multicellular Biochemistry. ChemBioChem, 2012, 13, 186-188.	2.6	3
65	Creating a Selective Nanobody Against 3-Nitrotyrosine Containing Proteins. Frontiers in Chemistry, 2022, 10, 835229.	3.6	3
66	Selection and validation of orthogonal tRNA/synthetase pairs for the encoding of unnatural amino acids across kingdoms. Methods in Enzymology, 2021, 654, 3-18.	1.0	2
67	Engineering Spatial Orthogonality into Protein Translation. Biochemistry, 2019, 58, 3325-3327.	2.5	1
68	Structural and Functional Characterization of Sulfonium Carbonâ€“Oxygen Hydrogen Bonding in the Deoxyamino Sugar Methyltransferase TylM1. Biochemistry, 2019, 58, 2152-2159.	2.5	0
69	Generating Permissive Siteâ€specific Unnatural Amino Acid Synthetases. FASEB Journal, 2010, 24, 838.7.	0.5	0
70	Structural Characterization of Rosetta Designed Amino Acylâ€tRNA Synthetase Active Sites for Genetic Code Expansion. FASEB Journal, 2019, 33, 630.1.	0.5	0