Matthew B Francis

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/8539511/publications.pdf

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135 papers 9,875 citations

52 h-index 96 g-index

149 all docs 149 docs citations

times ranked

149

8944 citing authors

#	Article	IF	CITATIONS
1	Proteins as adsorbents for PFAS removal from water. Environmental Science: Water Research and Technology, 2022, 8, 1188-1194.	1.2	7
2	Preparation of Bioderived and Biodegradable Surfactants Based on an Intrinsically Disordered Protein Sequence. Biomacromolecules, 2022, 23, 1462-1470.	2.6	2
3	Redirecting RiPP Biosynthetic Enzymes to Proteins and Backbone-Modified Substrates. ACS Central Science, 2022, 8, 473-482.	5. 3	13
4	Tyrosinase-Mediated Synthesis of Nanobody–Cell Conjugates. ACS Central Science, 2022, 8, 955-962.	5. 3	10
5	Direct observation of ion emission from charged aqueous nanodrops: effects on gaseous macromolecular charging. Chemical Science, 2021, 12, 5185-5195.	3.7	29
6	Covalent capture and electrochemical quantification of pathogenic <i>E. coli</i> . Chemical Communications, 2021, 57, 2507-2510.	2.2	13
7	Enzyme Activated Gold Nanoparticles for Versatile Site-Selective Bioconjugation. Journal of the American Chemical Society, 2021, 143, 7342-7350.	6.6	34
8	Shaping the Future of Higher Education: Practical, Community-Driven Initiatives to Improve Academic Climate. ACS Central Science, 2021, 7, 910-916.	5. 3	2
9	Improving the Academic Climate of an R1 STEM Department: Quantified Positive Shifts in Perception. ACS Omega, 2021, 6, 14410-14419.	1.6	8
10	Synthesis of Multi-Protein Complexes through Charge-Directed Sequential Activation of Tyrosine Residues. Journal of the American Chemical Society, 2021, 143, 13538-13547.	6.6	18
11	Protein-Embedded Metalloporphyrin Arrays Templated by Circularly Permuted Tobacco Mosaic Virus Coat Proteins. ACS Nano, 2021, 15, 8110-8119.	7.3	7
12	Lithiumâ€Chelating Resins Functionalized with Oligoethylene Glycols toward Lithiumâ€Ion Battery Recycling. Advanced Sustainable Systems, 2021, 5, 2000230.	2.7	7
13	Determination of Antibody Population Distributions for Virus-Antibody Conjugates by Charge Detection Mass Spectrometry. Analytical Chemistry, 2020, 92, 1285-1291.	3.2	6
14	Engineering a Virus-like Particle to Display Peptide Insertions Using an Apparent Fitness Landscape. Biomacromolecules, 2020, 21, 4194-4204.	2.6	13
15	Site-Specific Bioconjugation through Enzyme-Catalyzed Tyrosine–Cysteine Bond Formation. ACS Central Science, 2020, 6, 1564-1571.	5.3	60
16	Secondary modification of oxidatively-modified proline N-termini for the construction of complex bioconjugates. Organic and Biomolecular Chemistry, 2020, 18, 1881-1885.	1.5	7
17	Tyrosinase-Mediated Oxidative Coupling of Tyrosine Tags on Peptides and Proteins. Journal of the American Chemical Society, 2020, 142, 5078-5086.	6.6	51
18	Extravasation of PEGylated Spherical Nanoparticles through a Circular Pore of Similar Size. Macromolecules, 2020, 53, 2991-3006.	2.2	1

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19	Grassroots Efforts To Quantify and Improve the Academic Climate of an R1 STEM Department: Using Evidence-Based Discussions To Foster Community. Journal of Chemical Education, 2019, 96, 2149-2157.	1.1	17
20	Site-Selective Protein Immobilization on Polymeric Supports through N-Terminal Imidazolidinone Formation. Biomacromolecules, 2019, 20, 3933-3939.	2.6	17
21	Cytosolic Delivery of Proteins Using Amphiphilic Polymers with 2-Pyridinecarboxaldehyde Groups for Site-Selective Attachment. Journal of the American Chemical Society, 2019, 141, 2376-2383.	6.6	49
22	Rotaxane Probes for the Detection of Hydrogen Peroxide by ¹²⁹ Xe HyperCEST NMR Spectroscopy. Angewandte Chemie - International Edition, 2019, 58, 9948-9953.	7.2	19
23	Rotaxane Probes for the Detection of Hydrogen Peroxide by 129 Xe HyperCEST NMR Spectroscopy. Angewandte Chemie, 2019, 131, 10053-10058.	1.6	5
24	Enzymatic Modification of N-Terminal Proline Residues Using Phenol Derivatives. Journal of the American Chemical Society, 2019, 141, 3885-3892.	6.6	36
25	Systematic Engineering of a Protein Nanocage for High-Yield, Site-Specific Modification. Journal of the American Chemical Society, 2019, 141, 3875-3884.	6.6	25
26	Self-Assembling Micelles Based on an Intrinsically Disordered Protein Domain. Journal of the American Chemical Society, 2019, 141, 4291-4299.	6.6	31
27	A thylakoid membrane-bound and redox-active rubredoxin (RBD1) functions in de novo assembly and repair of photosystem II. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 16631-16640.	3.3	30
28	Impedance-Based Detection of Bacteria. Chemical Reviews, 2019, 119, 700-726.	23.0	217
29	DNA Hybridization to Control Cellular Interactions. Trends in Biochemical Sciences, 2019, 44, 342-350.	3.7	15
30	Effects of Conformational Changes in Peptide–CRM ₁₉₇ Conjugate Vaccines. Bioconjugate Chemistry, 2019, 30, 47-53.	1.8	15
31	Experimental Evaluation of Coevolution in a Self-Assembling Particle. Biochemistry, 2019, 58, 1527-1538.	1.2	19
32	Quantitative characterization of all single amino acid variants of a viral capsid-based drug delivery vehicle. Nature Communications, 2018, 9, 1385.	5.8	43
33	Structural Regulation of a Neurofilament-Inspired Intrinsically Disordered Protein Brush by Multisite Phosphorylation. Biochemistry, 2018, 57, 4019-4028.	1.2	12
34	Molecular Mechanics Simulations and Improved Tight-Binding Hamiltonians for Artificial Light Harvesting Systems: Predicting Geometric Distributions, Disorder, and Spectroscopy of Chromophores in a Protein Environment. Journal of Physical Chemistry B, 2018, 122, 12292-12301.	1.2	3
35	Evaluation of Three Morphologically Distinct Virus-Like Particles as Nanocarriers for Convection-Enhanced Drug Delivery to Glioblastoma. Nanomaterials, 2018, 8, 1007.	1.9	64
36	New Techniques for the Generation and Analysis of Tailored Microbial Systems on Surfaces. Biochemistry, 2018, 57, 3017-3026.	1.2	10

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37	DNA Hybridization To Interface Current-Producing Cells with Electrode Surfaces. ACS Central Science, 2018, 4, 880-884.	5.3	27
38	Vascular Cell Adhesion Molecule-Targeted MS2 Viral Capsids for the Detection of Early-Stage Atherosclerotic Plaques. Bioconjugate Chemistry, 2018, 29, 2526-2530.	1.8	22
39	Supramolecular strategies for protein immobilization and modification. Current Opinion in Chemical Biology, 2018, 46, 91-98.	2.8	17
40	Methods for Generating Microbial Cocultures that Grow in the Absence of Fixed Carbon or Nitrogen. Methods in Molecular Biology, 2018, 1772, 45-60.	0.4	1
41	Exploiting Chromophore–Protein Interactions through Linker Engineering To Tune Photoinduced Dynamics in a Biomimetic Light-Harvesting Platform. Journal of the American Chemical Society, 2018, 140, 6278-6287.	6.6	35
42	Encapsulation of Negatively Charged Cargo in MS2 Viral Capsids. Methods in Molecular Biology, 2018, 1776, 303-317.	0.4	6
43	Dual Surface Modification of Genome-Free MS2 Capsids for Delivery Applications. Methods in Molecular Biology, 2018, 1776, 629-642.	0.4	5
44	Antibody Modification of p-Aminophenylalanine-Containing Proteins. Methods in Molecular Biology, 2018, 1798, 195-201.	0.4	0
45	Rational Design of pH Sensitive MS2 Virusâ€Like Particles for Drug Delivery Applications. FASEB Journal, 2018, 32, .	0.2	0
46	Quantifying Hormone Disruptors with an Engineered Bacterial Biosensor. ACS Central Science, 2017, 3, 110-116.	5. 3	52
47	<i>ortho</i> -Methoxyphenols as Convenient Oxidative Bioconjugation Reagents with Application to Site-Selective Heterobifunctional Cross-Linkers. Journal of the American Chemical Society, 2017, 139, 3767-3773.	6.6	28
48	A modular platform to develop peptoid-based selective fluorescent metal sensors. Chemical Communications, 2017, 53, 3477-3480.	2.2	23
49	Targeting the N terminus for site-selective protein modification. Nature Chemical Biology, 2017, 13, 697-705.	3.9	277
50	Site-Selective Oxidative Coupling Reactions for the Attachment of Enzymes to Glass Surfaces through DNA-Directed Immobilization. Journal of the American Chemical Society, 2017, 139, 1967-1974.	6.6	39
51	Improving metabolite production in microbial coâ€cultures using a spatially constrained hydrogel. Biotechnology and Bioengineering, 2017, 114, 1195-1200.	1.7	19
52	Rotaxane probes for protease detection by ¹²⁹ Xe hyperCEST NMR. Chemical Communications, 2017, 53, 1076-1079.	2.2	38
53	Direct Electrochemical Bioconjugation on Metal Surfaces. Journal of the American Chemical Society, 2017, 139, 12610-12616.	6.6	30
54	Cucurbit[6]uril-Promoted Click Chemistry for Protein Modification. Journal of the American Chemical Society, 2017, 139, 9691-9697.	6.6	56

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55	Capture and Recycling of Sortaseâ€A through Siteâ€Specific Labeling with Lithocholic Acid. Angewandte Chemie, 2016, 128, 8727-8731.	1.6	14
56	Capture and Recycling of Sortaseâ€A through Siteâ€Specific Labeling with Lithocholic Acid. Angewandte Chemie - International Edition, 2016, 55, 8585-8589.	7.2	31
57	Simultaneous selection and counterâ€selection for the directed evolution of proteases in <i>E. coli</i> using a cytoplasmic anchoring strategy. Biotechnology and Bioengineering, 2016, 113, 1187-1193.	1.7	17
58	A Designed <i>A. vinelandii</i> â€" <i>S. elongatus</i> Coculture for Chemical Photoproduction from Air, Water, Phosphate, and Trace Metals. ACS Synthetic Biology, 2016, 5, 955-961.	1.9	62
59	Stable Disk Assemblies of a Tobacco Mosaic Virus Mutant as Nanoscale Scaffolds for Applications in Drug Delivery. Bioconjugate Chemistry, 2016, 27, 2480-2485.	1.8	46
60	Biodistribution of Antibody-MS2 Viral Capsid Conjugates in Breast Cancer Models. Molecular Pharmaceutics, 2016, 13, 3764-3772.	2.3	50
61	Targeted Molecular Imaging of Cancer Cells Using MS2-Based ¹²⁹ Xe NMR. Bioconjugate Chemistry, 2016, 27, 1796-1801.	1.8	23
62	Direct detection of nitrotyrosine-containing proteins using an aniline-based oxidative coupling strategy. Chemical Communications, 2016, 52, 10036-10039.	2.2	6
63	Near-Quantitative Aqueous Synthesis of Rotaxanes via Bioconjugation to Oligopeptides and Proteins. Journal of the American Chemical Society, 2016, 138, 15307-15310.	6.6	28
64	N-terminal specific conjugation of extracellular matrix proteins to 2-pyridinecarboxaldehyde functionalized polyacrylamide hydrogels. Biomaterials, 2016, 102, 268-276.	5.7	46
65	Rotaxane-mediated suppression and activation of cucurbit[6]uril for molecular detection by <a< td=""><td>2.2</td><td>47</td></a<>	2.2	47
66	A Peptoid-Based Combinatorial and Computational Approach to Developing Ligands for Uranyl Sequestration from Seawater. Industrial & Engineering Chemistry Research, 2016, 55, 4187-4194.	1.8	22
67	Investigation of DOTA–Metal Chelation Effects on the Chemical Shift of ¹²⁹ Xe. ChemPhysChem, 2015, 16, 3573-3577.	1.0	17
68	Development of peptoid-based ligands for the removal of cadmium from biological media. Chemical Science, 2015, 6, 4042-4048.	3.7	45
69	Development of Oxidative Coupling Strategies for Site-Selective Protein Modification. Accounts of Chemical Research, 2015, 48, 1971-1978.	7.6	49
70	Controlled levels of protein modification through a chromatography-mediated bioconjugation. Chemical Science, 2015, 6, 2596-2601.	3.7	9
71	Optimization and Expansion of a Site-Selective <i>N</i> -Methylpyridinium-4-carboxaldehyde-Mediated Transamination for Bacterially Expressed Proteins. Journal of the American Chemical Society, 2015, 137, 1123-1129.	6.6	24
72	Manipulating Excited-State Dynamics of Individual Light-Harvesting Chromophores through Restricted Motions in a Hydrated Nanoscale Protein Cavity. Journal of Physical Chemistry B, 2015, 119, 6963-6973.	1.2	11

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73	Influence of Electrostatics on Small Molecule Flux through a Protein Nanoreactor. ACS Synthetic Biology, 2015, 4, 1011-1019.	1.9	58
74	Sequence Programmable Peptoid Polymers for Diverse Materials Applications. Advanced Materials, 2015, 27, 5665-5691.	11.1	199
75	One-step site-specific modification of native proteins with 2-pyridinecarboxyaldehydes. Nature Chemical Biology, 2015, 11, 326-331.	3.9	248
76	Synthetically Modified Viral Capsids as Versatile Carriers for Use in Antibody-Based Cell Targeting. Bioconjugate Chemistry, 2015, 26, 1590-1596.	1.8	36
77	Chemical strategies for the covalent modification of filamentous phage. Frontiers in Microbiology, 2014, 5, 734.	1.5	40
78	Multivalent Viral Capsids with Internal Cargo for Fibrin Imaging. PLoS ONE, 2014, 9, e100678.	1.1	27
79	Molecular Sensing Using Hyperpolarized Xenon NMR Spectroscopy. Israel Journal of Chemistry, 2014, 54, 104-112.	1.0	29
80	Mild Bioconjugation Through the Oxidative Coupling of <i>ortho</i> â€Aminophenols and Anilines with Ferricyanide. Angewandte Chemie - International Edition, 2014, 53, 1057-1061.	7.2	42
81	Hyperpolarized Xenon-Based Molecular Sensors for Label-Free Detection of analytes. Journal of the American Chemical Society, 2014, 136, 164-168.	6.6	16
82	Photoactivated Bioconjugation Between <i>ortho</i> -Azidophenols and Anilines: A Facile Approach to Biomolecular Photopatterning. Journal of the American Chemical Society, 2014, 136, 12600-12606.	6.6	39
83	Bioconjugation of Gold Nanoparticles through the Oxidative Coupling of <i>ortho</i> -Aminophenols and Anilines. Bioconjugate Chemistry, 2014, 25, 1888-1892.	1.8	17
84	Hierarchical Assembly of Plasmonic Nanostructures Using Virus Capsid Scaffolds on DNA Origami Templates. ACS Nano, 2014, 8, 7896-7904.	7.3	33
85	Effects of NIPAm polymer additives on the enzymatic hydrolysis of Avicel and pretreated Miscanthus. Biotechnology and Bioengineering, 2014, 111, 1792-1800.	1.7	9
86	N-Terminal Modification of Proteins with <i>>o</i> -Aminophenols. Journal of the American Chemical Society, 2014, 136, 9572-9579.	6.6	107
87	Synthetically modified Fc domains as building blocks for immunotherapy applications. Chemical Science, 2013, 4, 266-272.	3.7	26
88	Controlled Integration of Gold Nanoparticles and Organic Fluorophores Using Synthetically Modified MS2 Viral Capsids. Journal of the American Chemical Society, 2013, 135, 3011-3016.	6.6	88
89	Recyclable Thermoresponsive Polymer–Cellulase Bioconjugates for Biomass Depolymerization. Journal of the American Chemical Society, 2013, 135, 293-300.	6.6	88
90	DNA-Mediated Assembly of Protein Heterodimers on Membrane Surfaces. Journal of the American Chemical Society, 2013, 135, 5012-5016.	6.6	27

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91	Site-Specific Protein Transamination Using $\langle i \rangle N \langle i \rangle$ -Methylpyridinium-4-carboxaldehyde. Journal of the American Chemical Society, 2013, 135, 17223-17229.	6.6	106
92	PET Imaging and Biodistribution of Chemically Modified Bacteriophage MS2. Molecular Pharmaceutics, 2013, 10, 69-76.	2.3	81
93	Selective Chromium(VI) Ligands Identified Using Combinatorial Peptoid Libraries. Journal of the American Chemical Society, 2013, 135, 17488-17493.	6.6	64
94	Molecular Imaging of Cancer Cells Using a Bacteriophageâ€Based ¹²⁹ Xe NMR Biosensor. Angewandte Chemie - International Edition, 2013, 52, 4849-4853.	7.2	93
95	N-Terminal Labeling of Filamentous Phage To Create Cancer Marker Imaging Agents. ACS Nano, 2012, 6, 6675-6680.	7.3	80
96	Osmolyte-Mediated Encapsulation of Proteins inside MS2 Viral Capsids. ACS Nano, 2012, 6, 8658-8664.	7.3	110
97	Direct Attachment of Microbial Organisms to Material Surfaces Through Sequenceâ€5pecific DNA Hybridization. Advanced Materials, 2012, 24, 2380-2385.	11.1	32
98	Rapid Chemoselective Bioconjugation through Oxidative Coupling of Anilines and Aminophenols. Journal of the American Chemical Society, 2011, 133, 16398-16401.	6.6	60
99	Viral Capsids as Self-Assembling Templates for New Materials. Progress in Molecular Biology and Translational Science, 2011, 103, 353-392.	0.9	30
100	Using Synthetically Modified Proteins to Make New Materials. Accounts of Chemical Research, 2011, 44, 774-783.	7.6	142
101	Multivalent, High-Relaxivity MRI Contrast Agents Using Rigid Cysteine-Reactive Gadolinium Complexes. Journal of the American Chemical Society, 2011, 133, 14704-14709.	6.6	115
102	Oxidative Modification of Native Protein Residues Using Cerium(IV) Ammonium Nitrate. Journal of the American Chemical Society, 2011, 133, 16970-16976.	6.6	110
103	Choosing an effective protein bioconjugation strategy. Nature Chemical Biology, 2011, 7, 876-884.	3.9	530
104	A Xenon-Based Molecular Sensor Assembled on an MS2 Viral Capsid Scaffold. Journal of the American Chemical Society, 2010, 132, 5936-5937.	6.6	89
105	Identification of Highly Reactive Sequences For PLP-Mediated Bioconjugation Using a Combinatorial Peptide Library. Journal of the American Chemical Society, 2010, 132, 16812-16817.	6.6	68
106	Dual-Surface Modified Virus Capsids for Targeted Delivery of Photodynamic Agents to Cancer Cells. ACS Nano, 2010, 4, 6014-6020.	7.3	194
107	Impact of Assembly State on the Defect Tolerance of TMV-Based Light Harvesting Arrays. Journal of the American Chemical Society, 2010, 132, 6068-6074.	6.6	100
108	Nanoscale Protein Assemblies from a Circular Permutant of the Tobacco Mosaic Virus. Nano Letters, 2010, 10, 181-186.	4.5	93

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109	Genomeâ€Free Viral Capsids as Multivalent Carriers for Taxol Delivery. Angewandte Chemie - International Edition, 2009, 48, 9493-9497.	7.2	117
110	Nanoscale Integration of Sensitizing Chromophores and Porphyrins with Bacteriophage MS2. Angewandte Chemie - International Edition, 2009, 48, 9498-9502.	7.2	66
111	Viral Capsid DNA Aptamer Conjugates as Multivalent Cell-Targeting Vehicles. Journal of the American Chemical Society, 2009, 131, 11174-11178.	6.6	213
112	Direct Cell Surface Modification with DNA for the Capture of Primary Cells and the Investigation of Myotube Formation on Defined Patterns. Langmuir, 2009, 25, 6985-6991.	1.6	135
113	DNA-barcode directed capture and electrochemical metabolic analysis of single mammalian cells on a microelectrode array. Lab on A Chip, 2009, 9, 2010.	3.1	44
114	Proteinâ€Crossâ€Linked Polymeric Materials through Siteâ€Selective Bioconjugation. Angewandte Chemie - International Edition, 2008, 47, 3751-3754.	7.2	72
115	DNAâ€Coated AFM Cantilevers for the Investigation of Cell Adhesion and the Patterning of Live Cells. Angewandte Chemie - International Edition, 2008, 47, 8473-8477.	7.2	57
116	High Relaxivity Gadolinium Hydroxypyridonateâ^Viral Capsid Conjugates:  Nanosized MRI Contrast Agents ¹ . Journal of the American Chemical Society, 2008, 130, 2546-2552.	6.6	165
117	Metallothionein-Cross-Linked Hydrogels for the Selective Removal of Heavy Metals from Water. Journal of the American Chemical Society, 2008, 130, 15820-15822.	6.6	92
118	Integrated microfluidic bioprocessor for single-cell gene expression analysis. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 20173-20178.	3.3	216
119	Oxidative coupling of peptides to a virus capsid containing unnatural amino acids. Chemical Communications, 2008, , 1205.	2.2	109
120	Optimization of a Biomimetic Transamination Reaction. Journal of the American Chemical Society, 2008, 130, 11762-11770.	6.6	116
121	Energy Transfer Dynamics in Light-Harvesting Assemblies Templated by the Tobacco Mosaic Virus Coat Protein. Journal of Physical Chemistry B, 2008, 112, 6887-6892.	1.2	61
122	Self-assembled cellular microarrays patterned using DNA barcodes. Lab on A Chip, 2007, 7, 1442.	3.1	59
123	Self-Assembling Light-Harvesting Systems from Synthetically Modified Tobacco Mosaic Virus Coat Proteins. Journal of the American Chemical Society, 2007, 129, 3104-3109.	6.6	364
124	Regioselective Labeling of Antibodies through N-Terminal Transamination. ACS Chemical Biology, 2007, 2, 247-251.	1.6	100
125	Dual-Surface-Modified Bacteriophage MS2 as an Ideal Scaffold for a Viral Capsid-Based Drug Delivery System. Bioconjugate Chemistry, 2007, 18, 1140-1147.	1.8	184
126	Modification of Aniline Containing Proteins Using an Oxidative Coupling Strategy. Journal of the American Chemical Society, 2006, 128, 15558-15559.	6.6	73

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127	An Affinity-Based Method for the Purification of Fluorescently-Labeled Biomolecules. Bioconjugate Chemistry, 2006, 17, 869-872.	1.8	28
128	Tyrosine-Selective Protein Alkylation Using ≒-Allylpalladium Complexes. Journal of the American Chemical Society, 2006, 128, 1080-1081.	6.6	270
129	Programmable Cell Adhesion Encoded by DNA Hybridization. Angewandte Chemie - International Edition, 2006, 45, 896-901.	7.2	165
130	N-Terminal Protein Modification through a Biomimetic Transamination Reaction. Angewandte Chemie - International Edition, 2006, 45, 5307-5311.	7.2	335
131	Dual-Surface Modification of the Tobacco Mosaic Virus. Journal of the American Chemical Society, 2005, 127, 3718-3723.	6.6	471
132	Interior Surface Modification of Bacteriophage MS2. Journal of the American Chemical Society, 2004, 126, 3718-3719.	6.6	313
133	Selective Tryptophan Modification with Rhodium Carbenoids in Aqueous Solution. Journal of the American Chemical Society, 2004, 126, 10256-10257.	6.6	265
134	A Three-Component Mannich-Type Reaction for Selective Tyrosine Bioconjugation. Journal of the American Chemical Society, 2004, 126, 15942-15943.	6.6	309
135	Mismatch in Perceptions of Success: Investigating Academic Values among Faculty and Doctoral Students. Journal of Chemical Education, 0, , .	1.1	2