Mark Howarth

List of Publications by Year
in descending order

71 papers	9,118 citations	87843 38 h-index	95218 68 g-index
76 all docs	76 docs citations	76 times ranked	10104 citing authors

#	Article	IF	Citations
1	Peptide tag forming a rapid covalent bond to a protein, through engineering a bacterial adhesin. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E690-7.	3.3	1,131
2	Site-specific labeling of cell surface proteins with biophysical probes using biotin ligase. Nature Methods, 2005, 2, 99-104.	9.0	617
3	Compact Biocompatible Quantum Dots Functionalized for Cellular Imaging. Journal of the American Chemical Society, 2008, 130, 1274-1284.	6.6	583
4	Targeting quantum dots to surface proteins in living cells with biotin ligase. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 7583-7588.	3.3	516
5	Monovalent, reduced-size quantum dots for imaging receptors on living cells. Nature Methods, 2008, 5, 397-399.	9.0	398
6	A monovalent streptavidin with a single femtomolar biotin binding site. Nature Methods, 2006, 3, 267-273.	9.0	334
7	Plug-and-Display: decoration of Virus-Like Particles via isopeptide bonds for modular immunization. Scientific Reports, 2016, 6, 19234.	1.6	310
8	Site-Specific Biotinylation of Purified Proteins Using BirA. Methods in Molecular Biology, 2015, 1266, 171-184.	0.4	305
9	Mosaic nanoparticles elicit cross-reactive immune responses to zoonotic coronaviruses in mice. Science, 2021, 371, 735-741.	6.0	305
10	Programmable polyproteams built using twin peptide superglues. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1202-1207.	3.3	262
11	Secrets of a covalent interaction for biomaterials and biotechnology: SpyTag and SpyCatcher. Current Opinion in Chemical Biology, 2015, 29, 94-99.	2.8	248
12	Structural Analysis and Optimization of the Covalent Association between SpyCatcher and a Peptide Tag. Journal of Molecular Biology, 2014, 426, 309-317.	2.0	241
13	Imaging proteins in live mammalian cells with biotin ligase and monovalent streptavidin. Nature Protocols, 2008, 3, 534-545.	5.5	221
14	Assembly and Antigen-Presenting Function of MHC Class I Molecules in Cells Lacking the ER Chaperone Calreticulin. Immunity, 2002, 16, 99-109.	6.6	217
15	A COVID-19 vaccine candidate using SpyCatcher multimerization of the SARS-CoV-2 spike protein receptor-binding domain induces potent neutralising antibody responses. Nature Communications, 2021, 12, 542.	5.8	200
16	Engineering a Rugged Nanoscaffold To Enhance Plug-and-Display Vaccination. ACS Nano, 2018, 12, 8855-8866.	7.3	180
17	Type 1 Insulin-like Growth Factor Receptor Translocates to the Nucleus of Human Tumor Cells. Cancer Research, 2010, 70, 6412-6419.	0.4	178
18	A streptavidin variant with slower biotin dissociation and increased mechanostability. Nature Methods, 2010, 7, 391-393.	9.0	169

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19	Tapasin enhances MHC class I peptide presentation according to peptide half-life. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 11737-11742.	3.3	168
20	Approaching infinite affinity through engineering of peptideâ€"protein interaction. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 26523-26533.	3.3	163
21	SpyLigase peptideâ€"peptide ligation polymerizes affibodies to enhance magnetic cancer cell capture. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E1176-81.	3.3	154
22	Spontaneous Intermolecular Amide Bond Formation between Side Chains for Irreversible Peptide Targeting. Journal of the American Chemical Society, 2010, 132, 4526-4527.	6.6	142
23	SpyTag/SpyCatcher Cyclization Confers Resilience to Boiling on a Mesophilic Enzyme. Angewandte Chemie - International Edition, 2014, 53, 6101-6104.	7.2	139
24	Evolving Accelerated Amidation by SpyTag/SpyCatcher to Analyze Membrane Dynamics. Angewandte Chemie - International Edition, 2017, 56, 16521-16525.	7.2	128
25	Superglue from bacteria: unbreakable bridges for protein nanotechnology. Trends in Biotechnology, 2014, 32, 506-512.	4.9	115
26	New Routes and Opportunities for Modular Construction of Particulate Vaccines: Stick, Click, and Glue. Frontiers in Immunology, 2018, 9, 1432.	2.2	115
27	How the biotinâ€"streptavidin interaction was made even stronger: investigation via crystallography and a chimaeric tetramer. Biochemical Journal, 2011, 435, 55-63.	1.7	112
28	Power to the protein: enhancing and combining activities using the Spy toolbox. Chemical Science, 2020, 11, 7281-7291.	3.7	109
29	Plug-and-Play Pairing via Defined Divalent Streptavidins. Journal of Molecular Biology, 2014, 426, 199-214.	2.0	87
30	Controlling Multivalent Binding through Surface Chemistry: Model Study on Streptavidin. Journal of the American Chemical Society, 2017, 139, 4157-4167.	6.6	86
31	Dual Plug-and-Display Synthetic Assembly Using Orthogonal Reactive Proteins for Twin Antigen Immunization. Bioconjugate Chemistry, 2017, 28, 1544-1551.	1.8	86
32	Spy&Go purification of SpyTag-proteins using pseudo-SpyCatcher to access an oligomerization toolbox. Nature Communications, 2019, 10, 1734.	5.8	73
33	Quantum Dot Targeting with Lipoic Acid Ligase and HaloTag for Single-Molecule Imaging on Living Cells. ACS Nano, 2012, 6, 11080-11087.	7.3	67
34	Nanoassembly routes stimulate conflicting antibody quantity and quality for transmission-blocking malaria vaccines. Scientific Reports, 2017, 7, 3811.	1.6	65
35	SpyAvidin Hubs Enable Precise and Ultrastable Orthogonal Nanoassembly. Journal of the American Chemical Society, 2014, 136, 12355-12363.	6.6	62
36	SnoopLigase Catalyzes Peptideâ€"Peptide Locking and Enables Solid-Phase Conjugate Isolation. Journal of the American Chemical Society, 2018, 140, 3008-3018.	6.6	61

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37	SpyRing interrogation: analyzing how enzyme resilience can be achieved with phytase and distinct cyclization chemistries. Scientific Reports, 2016, 6, 21151.	1.6	52
38	Solid-Phase Synthesis of 89 Polyamine-Based Cationic Lipids for DNA Delivery to Mammalian Cells. Chemistry - A European Journal, 2004, 10, 463-473.	1.7	46
39	Overcoming Symmetry Mismatch in Vaccine Nanoassembly through Spontaneous Amidation. Angewandte Chemie - International Edition, 2021, 60, 321-330.	7.2	45
40	Nanoteamwork: covalent protein assembly beyond duets towards protein ensembles and orchestras. Current Opinion in Biotechnology, 2018, 51, 16-23.	3.3	40
41	A Peptide Filtering Relation Quantifies MHC Class I Peptide Optimization. PLoS Computational Biology, 2011, 7, e1002144.	1.5	39
42	A single molecule assay to probe monovalent and multivalent bonds between hyaluronan and its key leukocyte receptor CD44 under force. Scientific Reports, 2016, 6, 34176.	1.6	38
43	Extracellular Self-Assembly of Functional and Tunable Protein Conjugates from <i>Bacillus subtilis</i>. ACS Synthetic Biology, 2017, 6, 957-967.	1.9	38
44	Separating speed and ability to displace roadblocks during DNA translocation by FtsK. EMBO Journal, 2010, 29, 1423-1433.	3.5	34
45	Hydroxy-Terminated Conjugated Polymer Nanoparticles Have Near-Unity Bright Fraction and Reveal Cholesterol-Dependence of IGF1R Nanodomains. ACS Nano, 2013, 7, 1137-1144.	7.3	34
46	Tapasin shapes immunodominance hierarchies according to the kinetic stability of peptide â€" MHC classâ€„I complexes. European Journal of Immunology, 2008, 38, 364-369.	1.6	32
47	The processing of antigens delivered as DNA vaccines. Immunological Reviews, 2004, 199, 27-39.	2.8	30
48	Mechanisms for Size-Dependent Protein Segregation at Immune Synapses Assessed with Molecular Rulers. Biophysical Journal, 2011, 100, 2865-2874.	0.2	29
49	SnoopLigase peptide-peptide conjugation enables modular vaccine assembly. Scientific Reports, 2019, 9, 4625.	1.6	29
50	DogCatcher allows loop-friendly protein-protein ligation. Cell Chemical Biology, 2022, 29, 339-350.e10.	2.5	29
51	Insider information on successful covalent protein coupling with help from SpyBank. Methods in Enzymology, 2019, 617, 443-461.	0.4	28
52	Electrophilic Affibodies Forming Covalent Bonds to Protein Targets. Journal of Biological Chemistry, 2009, 284, 32906-32913.	1.6	27
53	Assembling and decorating hyaluronan hydrogels with twin protein superglues to mimic cell-cell interactions. Biomaterials, 2018, 180, 253-264.	5.7	25
54	Cholesterol Loading and Ultrastable Protein Interactions Determine the Level of Tumor Marker Required for Optimal Isolation of Cancer Cells. Cancer Research, 2013, 73, 2310-2321.	0.4	18

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55	DNA Transfection Screening from Single Beads. ACS Combinatorial Science, 2004, 6, 753-760.	3.3	14
56	Virus-like particles against infectious disease and cancer: guidance for the nano-architect. Current Opinion in Biotechnology, 2022, 73, 346-354.	3.3	14
57	Amine Landscaping to Maximize Protein-Dye Fluorescence and Ultrastable Protein-Ligand Interaction. Cell Chemical Biology, 2017, 24, 1040-1047.e4.	2.5	13
58	Transmembrane protein rotaxanes reveal kinetic traps in the refolding of translocated substrates. Communications Biology, 2020, 3, 159.	2.0	12
59	SpySwitch enables pH- or heat-responsive capture and release for plug-and-display nanoassembly. Nature Communications, 2022, 13, .	5.8	12
60	Evolving Accelerated Amidation by SpyTag/SpyCatcher to Analyze Membrane Dynamics. Angewandte Chemie, 2017, 129, 16748-16752.	1.6	10
61	Loveâ€“Hate ligands for high resolution analysis of strain in ultra-stable protein/small molecule interaction. Bioorganic and Medicinal Chemistry, 2014, 22, 5476-5486.	1.4	9
62	Say it with proteins: an alphabet of crystal structures. Nature Structural and Molecular Biology, 2015, 22, 349-349.	3.6	8
63	Overcoming Symmetry Mismatch in Vaccine Nanoassembly through Spontaneous Amidation. Angewandte Chemie, 2021, 133, 325-334.	1.6	8
64	Gastrobodies are engineered antibody mimetics resilient to pepsin and hydrochloric acid. Communications Biology, 2021, 4, 960.	2.0	6
65	Giving cells a new sugar-coating. Nature Chemical Biology, 2006, 2, 127-128.	3.9	4
66	NeissLock provides an inducible protein anhydride for covalent targeting of endogenous proteins. Nature Communications, 2021, 12, 717.	5.8	2
67	SnoopLigase-Mediated Peptideâ€“Peptide Conjugation and Purification. Methods in Molecular Biology, 2021, 2208, 13-31.	0.4	1
68	Smart superglue in streptococci? The proof is in the pulling. Journal of Biological Chemistry, 2017, 292, 8998-8999.	1.6	0
69	Editorial overview: Nanobiotechnology: Baby steps and giant strides towards molecular mastery. Current Opinion in Biotechnology, 2018, 51, iv-vi.	3.3	0
70	Localization Error and Fitting Model Evaluation in Single Particle Tracking. Biophysical Journal, 2019, 116, 282a.	0.2	0
71	A molecular carâ€crash: a speeding motor hits a new ultraâ€stable nonâ€covalent interaction. FASEB Journal, 2010, 24, lb168.	0.2	0