

Mark Howarth

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/1854636/publications.pdf>

Version: 2024-02-01

71
papers

9,118
citations

87888

38
h-index

95266

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.	7.1	1,131
2	Site-specific labeling of cell surface proteins with biophysical probes using biotin ligase. Nature Methods, 2005, 2, 99-104.	19.0	617
3	Compact Biocompatible Quantum Dots Functionalized for Cellular Imaging. Journal of the American Chemical Society, 2008, 130, 1274-1284.	13.7	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.	7.1	516
5	Monovalent, reduced-size quantum dots for imaging receptors on living cells. Nature Methods, 2008, 5, 397-399.	19.0	398
6	A monovalent streptavidin with a single femtomolar biotin binding site. Nature Methods, 2006, 3, 267-273.	19.0	334
7	Plug-and-Display: decoration of Virus-Like Particles via isopeptide bonds for modular immunization. Scientific Reports, 2016, 6, 19234.	3.3	310
8	Site-Specific Biotinylation of Purified Proteins Using BirA. Methods in Molecular Biology, 2015, 1266, 171-184.	0.9	305
9	Mosaic nanoparticles elicit cross-reactive immune responses to zoonotic coronaviruses in mice. Science, 2021, 371, 735-741.	12.6	305
10	Programmable polyproteins built using twin peptide superglues. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1202-1207.	7.1	262
11	Secrets of a covalent interaction for biomaterials and biotechnology: SpyTag and SpyCatcher. Current Opinion in Chemical Biology, 2015, 29, 94-99.	6.1	248
12	Structural Analysis and Optimization of the Covalent Association between SpyCatcher and a Peptide Tag. Journal of Molecular Biology, 2014, 426, 309-317.	4.2	241
13	Imaging proteins in live mammalian cells with biotin ligase and monovalent streptavidin. Nature Protocols, 2008, 3, 534-545.	12.0	221
14	Assembly and Antigen-Presenting Function of MHC Class I Molecules in Cells Lacking the ER Chaperone Calreticulin. Immunity, 2002, 16, 99-109.	14.3	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.	12.8	200
16	Engineering a Rugged Nanoscaffold To Enhance Plug-and-Display Vaccination. ACS Nano, 2018, 12, 8855-8866.	14.6	180
17	Type 1 Insulin-like Growth Factor Receptor Translocates to the Nucleus of Human Tumor Cells. Cancer Research, 2010, 70, 6412-6419.	0.9	178
18	A streptavidin variant with slower biotin dissociation and increased mechanostability. Nature Methods, 2010, 7, 391-393.	19.0	169

#	ARTICLE	IF	CITATIONS
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.	7.1	168
20	Approaching infinite affinity through engineering of peptide-protein interaction. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 26523-26533.	7.1	163
21	SpyLigase peptide-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.	7.1	154
22	Spontaneous Intermolecular Amide Bond Formation between Side Chains for Irreversible Peptide Targeting. Journal of the American Chemical Society, 2010, 132, 4526-4527.	13.7	142
23	SpyTag/SpyCatcher Cyclization Confers Resilience to Boiling on a Mesophilic Enzyme. Angewandte Chemie - International Edition, 2014, 53, 6101-6104.	13.8	139
24	Evolving Accelerated Amidation by SpyTag/SpyCatcher to Analyze Membrane Dynamics. Angewandte Chemie - International Edition, 2017, 56, 16521-16525.	13.8	128
25	Superglue from bacteria: unbreakable bridges for protein nanotechnology. Trends in Biotechnology, 2014, 32, 506-512.	9.3	115
26	New Routes and Opportunities for Modular Construction of Particulate Vaccines: Stick, Click, and Glue. Frontiers in Immunology, 2018, 9, 1432.	4.8	115
27	How the biotin-streptavidin interaction was made even stronger: investigation via crystallography and a chimaeric tetramer. Biochemical Journal, 2011, 435, 55-63.	3.7	112
28	Power to the protein: enhancing and combining activities using the Spy toolbox. Chemical Science, 2020, 11, 7281-7291.	7.4	109
29	Plug-and-Play Pairing via Defined Divalent Streptavidins. Journal of Molecular Biology, 2014, 426, 199-214.	4.2	87
30	Controlling Multivalent Binding through Surface Chemistry: Model Study on Streptavidin. Journal of the American Chemical Society, 2017, 139, 4157-4167.	13.7	86
31	Dual Plug-and-Display Synthetic Assembly Using Orthogonal Reactive Proteins for Twin Antigen Immunization. Bioconjugate Chemistry, 2017, 28, 1544-1551.	3.6	86
32	Spy&Go purification of SpyTag-proteins using pseudo-SpyCatcher to access an oligomerization toolbox. Nature Communications, 2019, 10, 1734.	12.8	73
33	Quantum Dot Targeting with Lipoic Acid Ligase and HaloTag for Single-Molecule Imaging on Living Cells. ACS Nano, 2012, 6, 11080-11087.	14.6	67
34	Nanoassembly routes stimulate conflicting antibody quantity and quality for transmission-blocking malaria vaccines. Scientific Reports, 2017, 7, 3811.	3.3	65
35	SpyAvidin Hubs Enable Precise and Ultrastable Orthogonal Nanoassembly. Journal of the American Chemical Society, 2014, 136, 12355-12363.	13.7	62
36	SnoopLigase Catalyzes Peptide-Peptide Locking and Enables Solid-Phase Conjugate Isolation. Journal of the American Chemical Society, 2018, 140, 3008-3018.	13.7	61

#	ARTICLE	IF	CITATIONS
37	SpyRing interrogation: analyzing how enzyme resilience can be achieved with phytase and distinct cyclization chemistries. <i>Scientific Reports</i> , 2016, 6, 21151.	3.3	52
38	Solid-Phase Synthesis of 89 Polyamine-Based Cationic Lipids for DNA Delivery to Mammalian Cells. <i>Chemistry - A European Journal</i> , 2004, 10, 463-473.	3.3	46
39	Overcoming Symmetry Mismatch in Vaccine Nanoassembly through Spontaneous Amidation. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 321-330.	13.8	45
40	Nanoteamwork: covalent protein assembly beyond duets towards protein ensembles and orchestras. <i>Current Opinion in Biotechnology</i> , 2018, 51, 16-23.	6.6	40
41	A Peptide Filtering Relation Quantifies MHC Class I Peptide Optimization. <i>PLoS Computational Biology</i> , 2011, 7, e1002144.	3.2	39
42	A single molecule assay to probe monovalent and multivalent bonds between hyaluronan and its key leukocyte receptor CD44 under force. <i>Scientific Reports</i> , 2016, 6, 34176.	3.3	38
43	Extracellular Self-Assembly of Functional and Tunable Protein Conjugates from <i>Bacillus subtilis</i> . <i>ACS Synthetic Biology</i> , 2017, 6, 957-967.	3.8	38
44	Separating speed and ability to displace roadblocks during DNA translocation by FtsK. <i>EMBO Journal</i> , 2010, 29, 1423-1433.	7.8	34
45	Hydroxy-Terminated Conjugated Polymer Nanoparticles Have Near-Unity Bright Fraction and Reveal Cholesterol-Dependence of IGF1R Nanodomains. <i>ACS Nano</i> , 2013, 7, 1137-1144.	14.6	34
46	Tapasin shapes immunodominance hierarchies according to the kinetic stability of peptide-MHC class II complexes. <i>European Journal of Immunology</i> , 2008, 38, 364-369.	2.9	32
47	The processing of antigens delivered as DNA vaccines. <i>Immunological Reviews</i> , 2004, 199, 27-39.	6.0	30
48	Mechanisms for Size-Dependent Protein Segregation at Immune Synapses Assessed with Molecular Rulers. <i>Biophysical Journal</i> , 2011, 100, 2865-2874.	0.5	29
49	SnoopLigase peptide-peptide conjugation enables modular vaccine assembly. <i>Scientific Reports</i> , 2019, 9, 4625.	3.3	29
50	DogCatcher allows loop-friendly protein-protein ligation. <i>Cell Chemical Biology</i> , 2022, 29, 339-350.e10.	5.2	29
51	Insider information on successful covalent protein coupling with help from SpyBank. <i>Methods in Enzymology</i> , 2019, 617, 443-461.	1.0	28
52	Electrophilic Affibodies Forming Covalent Bonds to Protein Targets. <i>Journal of Biological Chemistry</i> , 2009, 284, 32906-32913.	3.4	27
53	Assembling and decorating hyaluronan hydrogels with twin protein superglues to mimic cell-cell interactions. <i>Biomaterials</i> , 2018, 180, 253-264.	11.4	25
54	Cholesterol Loading and Ultrastable Protein Interactions Determine the Level of Tumor Marker Required for Optimal Isolation of Cancer Cells. <i>Cancer Research</i> , 2013, 73, 2310-2321.	0.9	18

#	ARTICLE	IF	CITATIONS
55	DNA Transfection Screening from Single Beads. <i>ACS Combinatorial Science</i> , 2004, 6, 753-760.	3.3	14
56	Virus-like particles against infectious disease and cancer: guidance for the nano-architect. <i>Current Opinion in Biotechnology</i> , 2022, 73, 346-354.	6.6	14
57	Amine Landscaping to Maximize Protein-Dye Fluorescence and Ultrastable Protein-Ligand Interaction. <i>Cell Chemical Biology</i> , 2017, 24, 1040-1047.e4.	5.2	13
58	Transmembrane protein rotaxanes reveal kinetic traps in the refolding of translocated substrates. <i>Communications Biology</i> , 2020, 3, 159.	4.4	12
59	SpySwitch enables pH- or heat-responsive capture and release for plug-and-display nanoassembly. <i>Nature Communications</i> , 2022, 13, .	12.8	12
60	Evolving Accelerated Amidation by SpyTag/SpyCatcher to Analyze Membrane Dynamics. <i>Angewandte Chemie</i> , 2017, 129, 16748-16752.	2.0	10
61	Loveâ€Hate ligands for high resolution analysis of strain in ultra-stable protein/small molecule interaction. <i>Bioorganic and Medicinal Chemistry</i> , 2014, 22, 5476-5486.	3.0	9
62	Say it with proteins: an alphabet of crystal structures. <i>Nature Structural and Molecular Biology</i> , 2015, 22, 349-349.	8.2	8
63	Overcoming Symmetry Mismatch in Vaccine Nanoassembly through Spontaneous Amidation. <i>Angewandte Chemie</i> , 2021, 133, 325-334.	2.0	8
64	Gastrobodies are engineered antibody mimetics resilient to pepsin and hydrochloric acid. <i>Communications Biology</i> , 2021, 4, 960.	4.4	6
65	Giving cells a new sugar-coating. <i>Nature Chemical Biology</i> , 2006, 2, 127-128.	8.0	4
66	NeissLock provides an inducible protein anhydride for covalent targeting of endogenous proteins. <i>Nature Communications</i> , 2021, 12, 717.	12.8	2
67	SnoopLigase-Mediated Peptideâ€Peptide Conjugation and Purification. <i>Methods in Molecular Biology</i> , 2021, 2208, 13-31.	0.9	1
68	Smart superglue in streptococci? The proof is in the pulling. <i>Journal of Biological Chemistry</i> , 2017, 292, 8998-8999.	3.4	0
69	Editorial overview: Nanobiotechnology: Baby steps and giant strides towards molecular mastery. <i>Current Opinion in Biotechnology</i> , 2018, 51, iv-vi.	6.6	0
70	Localization Error and Fitting Model Evaluation in Single Particle Tracking. <i>Biophysical Journal</i> , 2019, 116, 282a.	0.5	0
71	A molecular carâ€crash: a speeding motor hits a new ultraâ€stable nonâ€covalent interaction. <i>FASEB Journal</i> , 2010, 24, lb168.	0.5	0