

Tomoaki Matsuura

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7667499/publications.pdf>

Version: 2024-02-01

119
papers

3,340
citations

147566

31
h-index

174990

52
g-index

121
all docs

121
docs citations

121
times ranked

2372
citing authors

#	ARTICLE	IF	CITATIONS
1	Replication of Genetic Information with Self-Encoded Replicase in Liposomes. <i>ChemBioChem</i> , 2008, 9, 2403-2410.	1.3	159
2	Coupling of the fusion and budding of giant phospholipid vesicles containing macromolecules. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 5942-5947.	3.3	148
3	Darwinian evolution in a translation-coupled RNA replication system within a cell-like compartment. <i>Nature Communications</i> , 2013, 4, 2494.	5.8	147
4	Cell-Free Protein Synthesis inside Giant Unilamellar Vesicles Analyzed by Flow Cytometry. <i>Langmuir</i> , 2012, 28, 8426-8432.	1.6	124
5	In vitro evolution of β -hemolysin using a liposome display. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 16796-16801.	3.3	123
6	Liposome display for in vitro selection and evolution of membrane proteins. <i>Nature Protocols</i> , 2014, 9, 1578-1591.	5.5	123
7	Computational design of transmembrane pores. <i>Nature</i> , 2020, 585, 129-134.	13.7	120
8	CRISPR/Cas-Mediated Targeted Mutagenesis in <i>Daphnia magna</i> . <i>PLoS ONE</i> , 2014, 9, e98363.	1.1	101
9	Femtoliter compartment in liposomes for in vitro selection of proteins. <i>Analytical Biochemistry</i> , 2006, 357, 128-136.	1.1	99
10	Quantitative Study of the Structure of Multilamellar Giant Liposomes As a Container of Protein Synthesis Reaction. <i>Langmuir</i> , 2008, 24, 13540-13548.	1.6	90
11	Population Analysis of Structural Properties of Giant Liposomes by Flow Cytometry. <i>Langmuir</i> , 2009, 25, 10439-10443.	1.6	89
12	Evolutionary molecular engineering by random elongation mutagenesis. <i>Nature Biotechnology</i> , 1999, 17, 58-61.	9.4	84
13	<i>In Vitro</i> Membrane Protein Synthesis Inside Cell-Sized Vesicles Reveals the Dependence of Membrane Protein Integration on Vesicle Volume. <i>ACS Synthetic Biology</i> , 2014, 3, 372-379.	1.9	70
14	Programmable Artificial Cells Using Histamine-Responsive Synthetic Riboswitch. <i>Journal of the American Chemical Society</i> , 2019, 141, 11103-11114.	6.6	70
15	Quantifying epistatic interactions among the components constituting the protein translation system. <i>Molecular Systems Biology</i> , 2009, 5, 297.	3.2	62
16	Programmed Vesicle Fusion Triggers Gene Expression. <i>Langmuir</i> , 2011, 27, 13082-13090.	1.6	62
17	Cellular Compartment Model for Exploring the Effect of the Lipidic Membrane on the Kinetics of Encapsulated Biochemical Reactions. <i>Langmuir</i> , 2010, 26, 8544-8551.	1.6	60
18	Betaproteobacteria <i>L</i> strains increase fecundity in the crustacean <i>Daphnia magna</i> : symbiotic relationship between major bacterioplankton and zooplankton in freshwater ecosystem. <i>Environmental Microbiology</i> , 2016, 18, 2366-2374.	1.8	57

#	ARTICLE	IF	CITATIONS
19	Detection of Association and Fusion of Giant Vesicles Using a Fluorescence-Activated Cell Sorter. <i>Langmuir</i> , 2010, 26, 15098-15103.	1.6	54
20	Synthesis of milligram quantities of proteins using a reconstituted in vitro protein synthesis system. <i>Journal of Bioscience and Bioengineering</i> , 2014, 118, 554-557.	1.1	53
21	In vitro evolution of proteins. <i>Journal of Bioscience and Bioengineering</i> , 2006, 101, 449-456.	1.1	50
22	Selection based on the folding properties of proteins with ribosome display. <i>FEBS Letters</i> , 2003, 539, 24-28.	1.3	49
23	Importance of Parasite RNA Species Repression for Prolonged Translation-Coupled RNA Self-Replication. <i>Chemistry and Biology</i> , 2012, 19, 478-487.	6.2	48
24	Genomic Integration and Germline Transmission of Plasmid Injected into Crustacean <i>Daphnia magna</i> Eggs. <i>PLoS ONE</i> , 2012, 7, e45318.	1.1	46
25	Constructing Partial Models of Cells. <i>Cold Spring Harbor Perspectives in Biology</i> , 2010, 2, a004945-a004945.	2.3	40
26	Symbiotic bacteria contribute to increasing the population size of a freshwater crustacean, <i>Daphnia magna</i> . <i>Environmental Microbiology Reports</i> , 2015, 7, 364-372.	1.0	40
27	Reaction dynamics analysis of a reconstituted <i>Escherichia coli</i> protein translation system by computational modeling. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E1336-E1344.	3.3	40
28	CRISPR/Cas-mediated knock-in via non-homologous end-joining in the crustacean <i>Daphnia magna</i> . <i>PLoS ONE</i> , 2017, 12, e0186112.	1.1	40
29	A 5' UTR-Overlapping lncRNA Activates the Male-Determining Gene <i>doublesex1</i> in the Crustacean <i>Daphnia magna</i> . <i>Current Biology</i> , 2018, 28, 1811-1817.e4.	1.8	39
30	Importance of compartment formation for a self-encoding system. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 7514-7517.	3.3	35
31	Origin of lognormal-like distributions with a common width in a growth and division process. <i>Physical Review E</i> , 2011, 83, 031118.	0.8	33
32	Comprehensive Analysis of the Effects of <i>Escherichia coli</i> ORFs on Protein Translation Reaction. <i>Molecular and Cellular Proteomics</i> , 2008, 7, 1530-1540.	2.5	32
33	Compartmentalization in a Water-in-Oil Emulsion Repressed the Spontaneous Amplification of RNA by Q β Replicase. <i>Biochemistry</i> , 2010, 49, 1809-1813.	1.2	31
34	Heterodimeric TALENs induce targeted heritable mutations in the crustacean <i>Daphnia magna</i> . <i>Biology Open</i> , 2015, 4, 364-369.	0.6	31
35	Nascent chain, mRNA, and ribosome complexes generated by a pure translation system. <i>Biochemical and Biophysical Research Communications</i> , 2007, 352, 372-377.	1.0	30
36	Synthesis of Functional Proteins Within Liposomes. <i>Methods in Molecular Biology</i> , 2010, 607, 243-256.	0.4	30

#	ARTICLE	IF	CITATIONS
37	Cell-free protein synthesis from a single copy of DNA in a glass microchamber. <i>Lab on A Chip</i> , 2012, 12, 2704.	3.1	29
38	Kinetic Analysis of $\hat{\Gamma}^2$ -Galactosidase and $\hat{\Gamma}^2$ -Glucuronidase Tetramerization Coupled with Protein Translation. <i>Journal of Biological Chemistry</i> , 2011, 286, 22028-22034.	1.6	28
39	Effects of Compartment Size on the Kinetics of Intracompartmental Multimeric Protein Synthesis. <i>ACS Synthetic Biology</i> , 2012, 1, 431-437.	1.9	27
40	Mapping the expression of the sex determining factor Doublesex1 in <i>Daphnia magna</i> using a knock-in reporter. <i>Scientific Reports</i> , 2017, 7, 13521.	1.6	27
41	Functional \hat{Q}^2 replicase genetically fusing essential subunits EF-Ts and EF-Tu with $\hat{\Gamma}^2$ -subunit. <i>Journal of Bioscience and Bioengineering</i> , 2006, 101, 421-426.	1.1	26
42	Construction of a Gene Screening System Using Giant Unilamellar Liposomes and a Fluorescence-Activated Cell Sorter. <i>Analytical Chemistry</i> , 2012, 84, 5017-5024.	3.2	26
43	Construction of an <i>in Vitro</i> Gene Screening System of the <i>E. coli</i> EmrE Transporter Using Liposome Display. <i>Analytical Chemistry</i> , 2016, 88, 12028-12035.	3.2	26
44	Co-option of the bZIP transcription factor Vrille as the activator of Doublesex1 in environmental sex determination of the crustacean <i>Daphnia magna</i> . <i>PLoS Genetics</i> , 2017, 13, e1006953.	1.5	26
45	Kinetic Analysis of the Entire RNA Amplification Process by \hat{Q}^2 Replicase. <i>Journal of Biological Chemistry</i> , 2007, 282, 15516-15527.	1.6	25
46	Importance of Translation-Replication Balance for Efficient Replication by the Self-Encoded Replicase. <i>ChemBioChem</i> , 2008, 9, 3023-3028.	1.3	24
47	Construction and characterization of protein libraries composed of secondary structure modules. <i>Protein Science</i> , 2009, 11, 2631-2643.	3.1	23
48	Identification of giant unilamellar vesicles with permeability to small charged molecules. <i>RSC Advances</i> , 2014, 4, 35224.	1.7	23
49	In vitro membrane protein synthesis inside Sec translocon-reconstituted cell-sized liposomes. <i>Scientific Reports</i> , 2016, 6, 36466.	1.6	23
50	Class III Polyphosphate Kinase 2 Enzymes Catalyze the Pyrophosphorylation of Adenosine 5'-Monophosphate. <i>ChemBioChem</i> , 2019, 20, 2961-2967.	1.3	23
51	TALEN-mediated knock-in via non-homologous end joining in the crustacean <i>Daphnia magna</i> . <i>Scientific Reports</i> , 2016, 6, 36252.	1.6	22
52	TALEN-mediated homologous recombination in <i>Daphnia magna</i> . <i>Scientific Reports</i> , 2016, 5, 18312.	1.6	21
53	Cell-free Protein Synthesis in a Microchamber Revealed the Presence of an Optimum Compartment Volume for High-order Reactions. <i>ACS Synthetic Biology</i> , 2014, 3, 347-352.	1.9	20
54	Early Embryonic Expression of a Putative Ecdysteroid-Phosphate Phosphatase in the Water Flea, <i>Daphnia magna</i> (Cladocera: Daphniidae). <i>Journal of Insect Science</i> , 2014, 14, 181.	0.6	19

#	ARTICLE	IF	CITATIONS
55	Liposome-Based in Vitro Evolution of Aminoacyl-tRNA Synthetase for Enhanced Pyrrolysine Derivative Incorporation. <i>ChemBioChem</i> , 2015, 16, 1797-1802.	1.3	19
56	Directed Evolution of Proteins through In Vitro Protein Synthesis in Liposomes. <i>Journal of Nucleic Acids</i> , 2012, 2012, 1-11.	0.8	18
57	Visualization of ecdysteroid activity using a reporter gene in the crustacean, <i>Daphnia</i> . <i>Marine Environmental Research</i> , 2014, 93, 118-122.	1.1	18
58	Sense-overlapping lncRNA as a decoy of translational repressor protein for dimorphic gene expression. <i>PLoS Genetics</i> , 2021, 17, e1009683.	1.5	18
59	Robustness of a Reconstituted <i>Escherichia coli</i> Protein Translation System Analyzed by Computational Modeling. <i>ACS Synthetic Biology</i> , 2018, 7, 1964-1972.	1.9	17
60	Mutation of the Cytochrome P450 <i>CYP360A8</i> Gene Increases Sensitivity to Paraquat in <i>Daphnia magna</i> . <i>Environmental Toxicology and Chemistry</i> , 2021, 40, 1279-1288.	2.2	17
61	A novel sequence-specific RNA quantification method using nicking endonuclease, dual-labeled fluorescent DNA probe, and conformation-interchangeable oligo-DNA. <i>Rna</i> , 2008, 14, 584-592.	1.6	16
62	Optimization of mRNA design for protein expression in the crustacean <i>Daphnia magna</i> . <i>Molecular Genetics and Genomics</i> , 2014, 289, 707-715.	1.0	14
63	Generation of white-eyed <i>Daphnia magna</i> mutants lacking scarlet function. <i>PLoS ONE</i> , 2018, 13, e0205609.	1.1	14
64	Quantitative analysis of cell-free synthesized membrane proteins at the stabilized droplet interface bilayer. <i>Chemical Communications</i> , 2018, 54, 12226-12229.	2.2	13
65	Combinatorial Approaches To Novel Proteins. <i>ChemBioChem</i> , 2004, 5, 177-182.	1.3	12
66	Effects of symbiotic bacteria on chemical sensitivity of <i>Daphnia magna</i> . <i>Marine Environmental Research</i> , 2017, 128, 70-75.	1.1	12
67	Strategies for Selection from Protein Libraries Composed of de Novo Designed Secondary Structure Modules. <i>Origins of Life and Evolution of Biospheres</i> , 2004, 34, 151-157.	0.8	11
68	Detection and Analysis of Protein Synthesis and RNA Replication in Giant Liposomes. <i>Methods in Enzymology</i> , 2009, 464, 19-30.	0.4	11
69	Roles of and cross-talk between ecdysteroid and sesquiterpenoid pathways in embryogenesis of branchiopod crustacean <i>Daphnia magna</i> . <i>PLoS ONE</i> , 2020, 15, e0239893.	1.1	11
70	Identification of Two Forms of Q β Replicase with Different Thermal Stabilities but Identical RNA Replication Activity. <i>Journal of Biological Chemistry</i> , 2010, 285, 37210-37217.	1.6	10
71	Kinetic model of double-stranded RNA formation during long RNA replication by Q β replicase. <i>FEBS Letters</i> , 2013, 587, 2565-2571.	1.3	10
72	Atrazine exposed phytoplankton causes the production of non-viable offspring on <i>Daphnia magna</i> . <i>Marine Environmental Research</i> , 2019, 145, 177-183.	1.1	9

#	ARTICLE	IF	CITATIONS
73	Two Doublesex1 mutants revealed a tunable gene network underlying intersexuality in <i>Daphnia magna</i> . PLoS ONE, 2020, 15, e0238256.	1.1	9
74	Compensatory Evolution of a WW Domain Variant Lacking the Strictly Conserved Trp Residue. Journal of Molecular Evolution, 2008, 66, 61-71.	0.8	8
75	Kinetic analysis of aptazyme-regulated gene expression in a cell-free translation system: Modeling of ligand-dependent and -independent expression. Rna, 2012, 18, 1458-1465.	1.6	8
76	Sequence Conservation and Sexually Dimorphic Expression of the Ftz-F1 Gene in the Crustacean <i>Daphnia magna</i> . PLoS ONE, 2016, 11, e0154636.	1.1	8
77	Fractal-shaped microchannel design for a kinetic analysis of biochemical reaction in a delay line. Microfluidics and Nanofluidics, 2012, 13, 273-278.	1.0	7
78	Membrane Curvature Affects the Formation of α -Hemolysin Nanopores. ACS Chemical Biology, 2015, 10, 1694-1701.	1.6	7
79	Bottom-up Creation of an Artificial Cell Covered with the Adhesive Bacterionanofiber Protein AtaA. Journal of the American Chemical Society, 2019, 141, 19058-19066.	6.6	7
80	Production of genome-edited <i>Daphnia</i> for heavy metal detection by fluorescence. Scientific Reports, 2020, 10, 21490.	1.6	7
81	DNMT3.1 controls trade-offs between growth, reproduction, and life span under starved conditions in <i>Daphnia magna</i> . Scientific Reports, 2021, 11, 7326.	1.6	7
82	Ribosome Display for Rapid Protein Evolution by Consecutive Rounds of Mutation and Selection. Methods in Molecular Biology, 2010, 634, 257-267.	0.4	6
83	Different protein localizations on the inner and outer leaflet of cell-sized liposomes using cell-free protein synthesis. Synthetic Biology, 2018, 3, ysy007.	1.2	6
84	Cell-Free Synthesis of Human Endothelin Receptors and Its Application to Ribosome Display. Analytical Chemistry, 2022, 94, 3831-3839.	3.2	6
85	<i>In vitro</i> directed evolution of alpha-hemolysin by liposome display. Biophysics (Nagoya-shi.) Tj ETQq1 1 0.784314 rgBT ₅ Overlo 0,4	0.4	5
86	Genomic integration and ligand-dependent activation of the human estrogen receptor α in the crustacean <i>Daphnia magna</i> . PLoS ONE, 2018, 13, e0198023.	1.1	5
87	Monitoring ecdysteroid activities using genetically encoded reporter gene in <i>Daphnia magna</i> . Marine Environmental Research, 2018, 140, 375-381.	1.1	5
88	<i>In vitro</i> synthesis of the human calcium transporter Letm1 within cell-sized liposomes and investigation of its lipid dependency. Journal of Bioscience and Bioengineering, 2019, 127, 544-548.	1.1	5
89	Caloric restriction upregulates the expression of DNMT3.1, lacking the conserved catalytic domain, in <i>Daphnia magna</i> . Genesis, 2020, 58, e23396.	0.8	5
90	α -Complementation in an Artificial Genome Replication System in Liposomes. ChemBioChem, 2012, 13, 2701-2706.	1.3	4

#	ARTICLE	IF	CITATIONS
91	Identification of conditions for efficient cell-sized liposome preparation using commercially available reconstituted in vitro transcription-translation system. Journal of Bioscience and Bioengineering, 2022, 133, 181-186.	1.1	4
92	Evolutionary Molecular Engineering by Random Elongation Mutagenesis. , 2002, 182, 221-230.		3
93	Effects of ribosomes on the kinetics of Q ² replication. FEBS Letters, 2014, 588, 117-123.	1.3	3
94	Growth evaluation method by live imaging of <i>Daphnia magna</i> and its application to the estimation of an insect growth regulator. Journal of Applied Toxicology, 2015, 35, 68-74.	1.4	3
95	Concurrent <i>In Vitro</i> Synthesis and Functional Detection of Nascent Activity of the KcsA Channel under a Membrane Potential. ACS Synthetic Biology, 2018, 7, 1004-1011.	1.9	3
96	Reduction of histamine and enhanced spinning behavior of <i>Daphnia magna</i> caused by <i>scarlet</i> mutant. Genesis, 2021, 59, e23403.	0.8	3
97	The Evolutionary Enhancement of Genotype-Phenotype Linkages in the Presence of Multiple Copies of Genetic Material. ChemBioChem, 2014, 15, 2281-2288.	1.3	2
98	Development of a bicistronic expression system in the branchiopod crustacean <i>Daphnia magna</i> . Genesis, 2017, 55, e23083.	0.8	2
99	Evolvability and Self-Replication of Genetic Information in Liposomes. , 2011, , 275-287.		2
100	In Vitro Selection of Proteins that Undergo Covalent Labeling with Small Molecules by Thiol-Disulfide Exchange by Using Ribosome Display. ChemBioChem, 2011, 12, 962-969.	1.3	1
101	Constructive Approaches for the Origin of Life. Cellular Origin and Life in Extreme Habitats, 2012, , 289-303.	0.3	1
102	Chimeric mutants of staphylococcal hemolysin, which act as both one-component and two-component hemolysin, created by grafting the stem domain. FEBS Journal, 2022, 289, 3505-3520.	2.2	1
103	Combinatorial Approaches to Novel Proteins. ChemInform, 2004, 35, no.	0.1	0
104	2P438 Strategy to evaluate the effect of individual E. coli protein on the protein translation machinery(48. Bioinformatics, genomics and proteomics (II),Poster Session,Abstract,Meeting Program) Tj ETQq0 0 0 rgBT /Overlock 10		
105	2P270 Inner aqueous volume distributions of cell-size liposomes in consideration of the inner-compartmentalization(Native and artificial biomembranes-structure and properties,Poster) Tj ETQq1 1 0.784314 rgBT /Overlock 10		
106	3P271 RNA-protein self-replicating system in liposome(The genesis of life, and biological) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 142 Td (
107	3P274 Experimental evolution of a primordial DNA binding protein(Proteins- protein engineering, and) Tj ETQq1 1 0.784314 rgBT /Overlock 10		
108	3P-275 Quantitative analysis of interactions between the phospholipid membrane and encapsulated reaction systems in cell-sized liposomes(The 46th Annual Meeting of the Biophysical Society of Japan). Seibutsu Butsuri, 2008, 48, S170.	0.0	0

#	ARTICLE	IF	CITATIONS
109	2S8-6 Dynamics of structure and internal reactions in liposomes explored by fluorescence-activated cell sorter(2S8 Giant Liposome Research Front Line,The 46th Annual Meeting of the Biophysical) Tj ETQq1 1 0.784314 rgBT /Overlock 10	0.0	0
110	1YP1-01 What is the condition of realizing a self-replication system of genetic information in vitro?(1YP1 Early Research in Biophysics Award Candidate Presentations,The 47th Annual Meeting of) Tj ETQq0 0 0.0 rgBT /Overlock 10	0.0	0
111	2P-228 What is the condition of realizing a self-replication system of genetic information in vitro?(Origin of life & Evolution,The 47th Annual Meeting of the Biophysical Society of Japan). Seibutsu Butsuri, 2009, 49, S143.	0.0	0
112	1P070 Co-translational folding of beta-galactosidase and beta-glucuronidase in an in vitro translation system(Protein:Property,The 48th Annual Meeting of the Biophysical Society of Japan). Seibutsu Butsuri, 2010, 50, S31.	0.0	0
113	1P291 1H1325 Effects of cell size on internal self-replication of genetic information(Origin of life &); Tj ETQq1 1 0.784314 rgBT /Overlock 10 Butsuri, 2010, 50, S71.	0.0	0
114	2P250 Detection of association and fusion of giant vesicles using fluorescence-activated cell sorter(The 48th Annual Meeting of the Biophysical Society of Japan). Seibutsu Butsuri, 2010, 50, S126-S127.	0.0	0
115	2P102 In vitro selection for covalent binding via disulfide interchange with ribosome display(The 48th) Tj ETQq1 1 0.784314 rgBT /Overlock 10	0.0	0
116	1P212 Morphological changes of the lipid membrane induced by inliposome membrane protein synthesis(13B. Biological & Artificial membrane: Dynamics,Poster,The 52nd Annual Meeting of the) Tj ETQq0 0 0.0 rgBT /Overlock 10	0.0	0
117	Liposome Display: <i>In Vitro</i> Directed Evolution of Membrane Proteins. Seibutsu Butsuri, 2014, 54, 146-149.	0.0	0
118	Investigating Molecular Evolution in the Laboratory. Seibutsu Butsuri, 2010, 50, 270-271.	0.0	0
119	1C33 Volume Dependence of Cell-free Protein Synthesis Using a Glass Microchamber. The Proceedings of the Bioengineering Conference Annual Meeting of BED/JSME, 2014, 2014.26, 91-92.	0.0	0