Akihiko Nakamura

List of Publications by Year
in descending order

34 papers	690 citations	623574 14 h-index	580701 25 g-index
36 all docs	36 docs citations	36 times ranked	901 citing authors

#	Article	IF	Citations
1	â€œNewtonâ€™s cradleâ€•proton relay with amideâ€“imidic acid tautomerization in inverting cellulase visualized by neutron crystallography. Science Advances, 2015, 1, e1500263.	4.7	80
2	The Tryptophan Residue at the Active Site Tunnel Entrance of Trichoderma reesei Cellobiohydrolase Cel7A Is Important for Initiation of Degradation of Crystalline Cellulose. Journal of Biological Chemistry, 2013, 288, 13503-13510.	1.6	77
3	Trade-off between Processivity and Hydrolytic Velocity of Cellobiohydrolases at the Surface of Crystalline Cellulose. Journal of the American Chemical Society, 2014, 136, 4584-4592.	6.6	77
4	Single-molecule Imaging Analysis of Elementary Reaction Steps of Trichoderma reesei Cellobiohydrolase I (Cel7A) Hydrolyzing Crystalline Cellulose Iα and IIII. Journal of Biological Chemistry, 2014, 289, 14056-14065.	1.6	50
5	Processive chitinase is Brownian monorail operated by fast catalysis after peeling rail from crystalline chitin. Nature Communications, 2018, 9, 3814.	5.8	50
6	Single-molecule Imaging Analysis of Binding, Processive Movement, and Dissociation of Cellobiohydrolase Trichoderma reesei Cel6A and Its Domains on Crystalline Cellulose. Journal of Biological Chemistry, 2016, 291, 22404-22413.	1.6	45
7	Positive Charge Introduction on the Surface of Thermostabilized PET Hydrolase Facilitates PET Binding and Degradation. ACS Catalysis, 2021, 11, 8550-8564.	5.5	39
8	Convergent evolution of processivity in bacterial and fungal cellulases. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 19896-19903.	3.3	31
9	Single-Nanoparticle Tracking with Angstrom Localization Precision and Microsecond Time Resolution. Biophysical Journal, 2018, 115, 2413-2427.	0.2	28
10	Rate constants, processivity, and productive binding ratio of chitinase A revealed by single-molecule analysis. Physical Chemistry Chemical Physics, 2018, 20, 3010-3018.	1.3	24
11	Structural and Biochemical Analyses of Glycoside Hydrolase Family 26 Î²-Mannanase from a Symbiotic Protist of the Termite Reticulitermes speratus. Journal of Biological Chemistry, 2014, 289, 10843-10852.	1.6	22
12	Development of simple random mutagenesis protocol for the protein expression system in Pichia pastoris. Biotechnology for Biofuels, 2016, 9, 199.	6.2	22
13	Multicolor High-Speed Tracking of Single Biomolecules with Silver, Gold, and Silverâ€“Gold Alloy Nanoparticles. ACS Photonics, 2019, 6, 2870-2883.	3.2	17
14	The GH26 Î²-mannanase RsMan26H from a symbiotic protist of the termite Reticulitermes speratus is an endo-processive mannobiohydrolase: Heterologous expression and characterization. Biochemical and Biophysical Research Communications, 2014, 452, 520-525.	1.0	16
15	Degradation of Crystalline Celluloses by Phanerochaete chrysosporium Cellobiohydrolase II (Cel6A) Heterologously Expressed in Methylotrophic Yeast Pichia pastoris. Journal of Applied Glycoscience (1999), 2012, 59, 105-110.	0.3	16
16	Phase-diagram-guided method for growth of a large crystal of glycoside hydrolase family 45 inverting cellulase suitable for neutron structural analysis. Journal of Synchrotron Radiation, 2013, 20, 859-863.	1.0	14
17	Single-molecule imaging and manipulation of biomolecular machines and systems. Biochimica Et Biophysica Acta - General Subjects, 2018, 1862, 241-252.	1.1	12
18	Single-molecule imaging analysis reveals the mechanism of a high-catalytic-activity mutant of chitinase A from Serratia marcescens. Journal of Biological Chemistry, 2020, 295, 1915-1925.	1.6	12

#	Article	IF	Citations
19	Domain architecture divergence leads to functional divergence in binding and catalytic domains of bacterial and fungal cellobiohydrolases. Journal of Biological Chemistry, 2020, 295, 14606-14617.	1.6	11
20	Small stepping motion of processive dynein revealed by load-free high-speed single-particle tracking. Scientific Reports, 2020, 10, 1080.	1.6	10
21	Crystal structure of a family 6 cellobiohydrolase from the basidiomycete<i>Phanerochaete chrysosporium</i>. Acta Crystallographica Section F, Structural Biology Communications, 2017, 73, 398-403.	0.4	8
22	Plasmid-Based One-Pot Saturation Mutagenesis and Robot-Based Automated Screening for Protein Engineering. ACS Omega, 2018, 3, 7715-7726.	1.6	7
23	Crystalline chitin hydrolase is a burnt-bridge Brownian motor. Biophysics and Physicobiology, 2020, 17, 51-58.	0.5	5
24	Label-free monitoring of crystalline chitin hydrolysis by chitinase based on Raman spectroscopy. Analyst, The, 2021, 146, 4087-4094.	1.7	4
25	Combined Approach to Engineer a Highly Active Mutant of Processive Chitinase Hydrolyzing Crystalline Chitin. ACS Omega, 2020, 5, 26807-26816.	1.6	3
26	Chemical-State-Dependent Free Energy Profile from Single-Molecule Trajectories of Biomolecular Motors: Application to Processive Chitinase. Journal of Physical Chemistry B, 2020, 124, 6475-6487.	1.2	3
27	The use of neutron scattering to determine the functional structure of glycoside hydrolase. Current Opinion in Structural Biology, 2016, 40, 54-61.	2.6	2
28	Visualization of Functional Structure and Kinetic Dynamics of Cellulases. Advances in Experimental Medicine and Biology, 2018, 1104, 201-217.	0.8	2
29	Role of Tryptophan 38 in Loading Substrate Chain into the Active-site Tunnel of Cellobiohydrolase I from <i>Trichoderma reesei</i>. Journal of Applied Glycoscience (1999), 2021, 68, 19-29.	0.3	2
30	Direct Observation of Proton Pathway in Enzyme by Joint Analysis of Neutron and X-ray Crystallography. Seibutsu Butsuri, 2016, 56, 171-173.	0.0	0
31	Molecular Mechanism of an Exo-type Cellulase Revealed by Single-molecule Analysis. Seibutsu Butsuri, 2014, 54, 318-320.	0.0	0
32	Analysis of Reaction Mechanism of Inverting Cellulase Including a Proton Pathway by a Joint Analysis of Neutron/X-ray Crystallography. Hamon, 2016, 26, 139-142.	0.0	0
33	Chitinase Moves on and Degradates Crystalline Chitin with Brownian Motion. Seibutsu Butsuri, 2019, 59, 330-333.	0.0	0
34	[Review] Moving Mechanism of Chitinase A from <i>Serratia marcescens</i>. Bulletin of Applied Glycoscience, 2020, 10, 89-95.	0.0	0