

Toru Komatsu

List of Publications by Year in descending order

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97
papers

5,569
citations

81900

39
h-index

79698

73
g-index

106
all docs

106
docs citations

106
times ranked

7050
citing authors

#	ARTICLE	IF	CITATIONS
1	Development of a Highly Selective Fluorescence Probe for Hydrogen Sulfide. <i>Journal of the American Chemical Society</i> , 2011, 133, 18003-18005.	13.7	614
2	Development of a Highly Sensitive Fluorescence Probe for Hydrogen Peroxide. <i>Journal of the American Chemical Society</i> , 2011, 133, 10629-10637.	13.7	340
3	Development of Azo-Based Fluorescent Probes to Detect Different Levels of Hypoxia. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 13028-13032.	13.8	241
4	Development of an Azo-Based Photosensitizer Activated under Mild Hypoxia for Photodynamic Therapy. <i>Journal of the American Chemical Society</i> , 2017, 139, 13713-13719.	13.7	206
5	Development of a Far-Red to Near-Infrared Fluorescence Probe for Calcium Ion and its Application to Multicolor Neuronal Imaging. <i>Journal of the American Chemical Society</i> , 2011, 133, 14157-14159.	13.7	176
6	Development of a fluorescein analogue, TokyoMagenta, as a novel scaffold for fluorescence probes in red region. <i>Chemical Communications</i> , 2011, 47, 4162.	4.1	151
7	A reversible near-infrared fluorescence probe for reactive oxygen species based on Te-rhodamine. <i>Chemical Communications</i> , 2012, 48, 3091.	4.1	147
8	Organelle-specific, rapid induction of molecular activities and membrane tethering. <i>Nature Methods</i> , 2010, 7, 206-208.	19.0	141
9	Design and Synthesis of Highly Sensitive Fluorogenic Substrates for Glutathione S-Transferase and Application for Activity Imaging in Living Cells. <i>Journal of the American Chemical Society</i> , 2008, 130, 14533-14543.	13.7	139
10	An Activatable Photosensitizer Targeted to β -Glutamyltranspeptidase. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 10418-10422.	13.8	127
11	Real-Time Measurements of Protein Dynamics Using Fluorescence Activation-Coupled Protein Labeling Method. <i>Journal of the American Chemical Society</i> , 2011, 133, 6745-6751.	13.7	122
12	Design Strategy for a Near-Infrared Fluorescence Probe for Matrix Metalloproteinase Utilizing Highly Cell Permeable Boron Dipyrromethene. <i>Journal of the American Chemical Society</i> , 2012, 134, 13730-13737.	13.7	120
13	Highly Activatable and Environment-Insensitive Optical Highlighters for Selective Spatiotemporal Imaging of Target Proteins. <i>Journal of the American Chemical Society</i> , 2012, 134, 11153-11160.	13.7	115
14	Development of a Series of Practical Fluorescent Chemical Tools To Measure pH Values in Living Samples. <i>Journal of the American Chemical Society</i> , 2018, 140, 5925-5933.	13.7	115
15	Reversible Off-On Fluorescence Probe for Hypoxia and Imaging of Hypoxia-Normoxia Cycles in Live Cells. <i>Journal of the American Chemical Society</i> , 2012, 134, 19588-19591.	13.7	110
16	Development of a Series of Near-Infrared Dark Quenchers Based on Si-rhodamines and Their Application to Fluorescent Probes. <i>Journal of the American Chemical Society</i> , 2015, 137, 4759-4765.	13.7	109
17	Design and Synthesis of an Enzyme Activity-Based Labeling Molecule with Fluorescence Spectral Change. <i>Journal of the American Chemical Society</i> , 2006, 128, 15946-15947.	13.7	104
18	Selective Ablation of β -Galactosidase-Expressing Cells with a Rationally Designed Activatable Photosensitizer. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 6772-6775.	13.8	102

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19	Boron Dipyrromethene As a Fluorescent Caging Group for Single-Photon Uncaging with Long-Wavelength Visible Light. <i>ACS Chemical Biology</i> , 2014, 9, 2242-2246.	3.4	87
20	Glutoxin Suppresses NF- κ B Activation by Selectively Inhibiting Linear Ubiquitin Chain Assembly Complex (LUBAC). <i>ACS Chemical Biology</i> , 2015, 10, 675-681.	3.4	77
21	A Water-Soluble Mechanochromic Luminescent Pyrene Derivative Exhibiting Recovery of the Initial Photoluminescence Color in a High-Humidity Environment. <i>Advanced Functional Materials</i> , 2013, 23, 5277-5284.	14.9	76
22	Covalent Attachment of Mechanoresponsive Luminescent Micelles to Glasses and Polymers in Aqueous Conditions. <i>Journal of the American Chemical Society</i> , 2014, 136, 4273-4280.	13.7	74
23	Discovery and Mechanistic Characterization of Selective Inhibitors of H ₂ S-producing Enzyme: 3-Mercaptopyruvate Sulfurtransferase (3MST) Targeting Active-site Cysteine Persulfide. <i>Scientific Reports</i> , 2017, 7, 40227.	3.3	73
24	Development of 2,6-carboxy-substituted boron dipyrromethene (BODIPY) as a novel scaffold of ratiometric fluorescent probes for live cell imaging. <i>Chemical Communications</i> , 2009, , 7015.	4.1	71
25	Red Fluorescent Probe for Monitoring the Dynamics of Cytoplasmic Calcium Ions. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 3874-3877.	13.8	71
26	Development of a reversible fluorescent probe for reactive sulfur species, sulfane sulfur, and its biological application. <i>Chemical Communications</i> , 2017, 53, 1064-1067.	4.1	70
27	A Gd ³⁺ -Based Magnetic Resonance Imaging Contrast Agent Sensitive to β -Galactosidase Activity Utilizing a Receptor-Induced Magnetization Enhancement (RIME) Phenomenon. <i>Chemistry - A European Journal</i> , 2008, 14, 987-995.	3.3	67
28	Rapid and sensitive detection of early esophageal squamous cell carcinoma with fluorescence probe targeting dipeptidylpeptidase IV. <i>Scientific Reports</i> , 2016, 6, 26399.	3.3	65
29	New Class of Bioluminogenic Probe Based on Bioluminescent Enzyme-Induced Electron Transfer: BioLeT. <i>Journal of the American Chemical Society</i> , 2015, 137, 4010-4013.	13.7	63
30	Development of a Sensitive Bioluminogenic Probe for Imaging Highly Reactive Oxygen Species in Living Rats. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 14768-14771.	13.8	57
31	Near-Infrared Fluorescence Probes for Enzymes Based on Binding Affinity Modulation of Squarylium Dye Scaffold. <i>Analytical Chemistry</i> , 2012, 84, 4404-4410.	6.5	55
32	Establishment of Molecular Design Strategy To Obtain Activatable Fluorescent Probes for Carboxypeptidases. <i>Journal of the American Chemical Society</i> , 2018, 140, 1767-1773.	13.7	55
33	Rational design of boron dipyrromethene (BODIPY)-based photobleaching-resistant fluorophores applicable to a protein dynamics study. <i>Chemical Communications</i> , 2011, 47, 10055.	4.1	54
34	Protein-Coupled Fluorescent Probe To Visualize Potassium Ion Transition on Cellular Membranes. <i>Analytical Chemistry</i> , 2016, 88, 2693-2700.	6.5	54
35	Enzyme-Loaded Polyion Complex Vesicles as in Vivo Nanoreactors Working Sustainably under the Blood Circulation: Characterization and Functional Evaluation. <i>Biomacromolecules</i> , 2017, 18, 1189-1196.	5.4	54
36	Analysis of Chemical Equilibrium of Silicon-Substituted Fluorescein and Its Application to Develop a Scaffold for Red Fluorescent Probes. <i>Analytical Chemistry</i> , 2015, 87, 9061-9069.	6.5	49

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37	Development of hypoxia-sensitive Gd ³⁺ -based MRI contrast agents. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2012, 22, 2798-2802.	2.2	47
38	Red fluorescent scaffold for highly sensitive protease activity probes. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2012, 22, 3908-3911.	2.2	44
39	Multiplexed single-molecule enzyme activity analysis for counting disease-related proteins in biological samples. <i>Science Advances</i> , 2020, 6, eaay0888.	10.3	44
40	Evaluation of Enzymatic Activities in Living Systems with Small-molecular Fluorescent Substrate Probes. <i>Analytical Sciences</i> , 2015, 31, 257-265.	1.6	41
41	A Fluorescent Probe for Rapid, High-Contrast Visualization of Folate-Receptor-Expressing Tumors In Vivo. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 6015-6020.	13.8	41
42	Red-Shifted Fluorogenic Substrate for Detection of <i>lacZ</i> -Positive Cells in Living Tissue with Single-Cell Resolution. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 15702-15706.	13.8	38
43	Fluorescence Probe for Lysophospholipase C/NPP6 Activity and a Potent NPP6 Inhibitor. <i>Journal of the American Chemical Society</i> , 2011, 133, 12021-12030.	13.7	37
44	Design and Synthesis of an Activatable Photoacoustic Probe for Hypochlorous Acid. <i>Analytical Chemistry</i> , 2019, 91, 9086-9092.	6.5	37
45	Synthesis of unsymmetrical Si-rhodamine fluorophores and application to a far-red to near-infrared fluorescence probe for hypoxia. <i>Chemical Communications</i> , 2018, 54, 6939-6942.	4.1	36
46	The Glycerophospho Metabolome and Its Influence on Amino Acid Homeostasis Revealed by Brain Metabolomics of GDE1 (α ^{+/+}) Mice. <i>Chemistry and Biology</i> , 2010, 17, 831-840.	6.0	34
47	Development of a highly selective fluorescence probe for alkaline phosphatase. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2011, 21, 5088-5091.	2.2	34
48	Development of an Azoreductase-based Reporter System with Synthetic Fluorogenic Substrates. <i>ACS Chemical Biology</i> , 2017, 12, 558-563.	3.4	33
49	Thermal or Mechanical Stimuli-Induced Photoluminescence Color Change of a Molecular Assembly Composed of an Amphiphilic Anthracene Derivative in Water. <i>Chemistry - A European Journal</i> , 2014, 20, 10397-10403.	3.3	32
50	Development of a potassium ion-selective fluorescent sensor based on 3-styrylated BODIPY. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2011, 21, 6090-6093.	2.2	31
51	Diced Electrophoresis Gel Assay for Screening Enzymes with Specified Activities. <i>Journal of the American Chemical Society</i> , 2013, 135, 6002-6005.	13.7	31
52	Design strategy for germanium-rhodamine based pH-activatable near-infrared fluorescence probes suitable for biological applications. <i>Communications Chemistry</i> , 2019, 2, .	4.5	29
53	A Fluorescent Probe for Rapid, High-Contrast Visualization of Folate-Receptor-Expressing Tumors In Vivo. <i>Angewandte Chemie</i> , 2020, 132, 6071-6076.	2.0	28
54	Red Fluorescence Probe Targeted to Dipeptidylpeptidase-IV for Highly Sensitive Detection of Esophageal Cancer. <i>Bioconjugate Chemistry</i> , 2019, 30, 1055-1060.	3.6	25

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55	Development of practical red fluorescent probe for cytoplasmic calcium ions with greatly improved cell-membrane permeability. <i>Cell Calcium</i> , 2016, 60, 256-265.	2.4	24
56	Design of spontaneously blinking fluorophores for live-cell super-resolution imaging based on quantum-chemical calculations. <i>Chemical Communications</i> , 2020, 56, 13173-13176.	4.1	24
57	TokyoGreen derivatives as specific and practical fluorescent probes for UDP-glucuronosyltransferase (UGT) 1A1. <i>Chemical Communications</i> , 2013, 49, 3101.	4.1	23
58	Detection of NAD(P)H-dependent enzyme activity with dynamic luminescence quenching of terbium complexes. <i>Chemical Communications</i> , 2015, 51, 8319-8322.	4.1	22
59	Artificial Ligands of Streptavidin (ALiS): Discovery, Characterization, and Application for Reversible Control of Intracellular Protein Transport. <i>Journal of the American Chemical Society</i> , 2015, 137, 10464-10467.	13.7	22
60	Covalent Self-Labeling of Tagged Proteins with Chemical Fluorescent Dyes in BY-2 Cells and Arabidopsis Seedlings. <i>Plant Cell</i> , 2020, 32, 3081-3094.	6.6	22
61	Identification of Tissue-Restricted Bioreaction Suitable for in Vivo Targeting by Fluorescent Substrate Library-Based Enzyme Discovery. <i>Journal of the American Chemical Society</i> , 2015, 137, 12187-12190.	13.7	20
62	Diced electrophoresis gel assay for screening enzymes with specified activities. <i>Denki Eido</i> , 2015, 59, 115-117.	0.0	20
63	Discovery of Cell-Type-Specific and Disease-Related Enzymatic Activity Changes via Global Evaluation of Peptide Metabolism. <i>Journal of the American Chemical Society</i> , 2017, 139, 3465-3472.	13.7	17
64	Unexpected Photo-instability of 2,6-Sulfonamide-Substituted BODIPYs and Its Application to Caged GABA. <i>ChemBioChem</i> , 2016, 17, 1233-1240.	2.6	16
65	Toward total synthesis of cell function: Reconstituting cell dynamics with synthetic biology. <i>Science Signaling</i> , 2016, 9, re1.	3.6	16
66	High-throughput single-molecule bioassay using micro-reactor arrays with a concentration gradient of target molecules. <i>Lab on A Chip</i> , 2018, 18, 2849-2853.	6.0	16
67	Rapid detection of metastatic lymph nodes of colorectal cancer with a gamma-glutamyl transpeptidase-activatable fluorescence probe. <i>Scientific Reports</i> , 2018, 8, 17781.	3.3	15
68	Rational Design of a Near-Infrared Fluorescence Probe for Ca ²⁺ Based on Phosphorus-Substituted Rhodamines Utilizing Photoinduced Electron Transfer. <i>Chemistry - an Asian Journal</i> , 2020, 15, 524-530.	3.3	14
69	Development of a fluorescent probe library enabling efficient screening of tumour-imaging probes based on discovery of biomarker enzymatic activities. <i>Chemical Science</i> , 2022, 13, 4474-4481.	7.4	14
70	Rapidly rendering cells phagocytic through a cell surface display technique and concurrent Rac activation. <i>Science Signaling</i> , 2014, 7, rs4.	3.6	13
71	A design strategy for small molecule-based targeted MRI contrast agents: their application for detection of atherosclerotic plaques. <i>Organic and Biomolecular Chemistry</i> , 2014, 12, 8611-8618.	2.8	13
72	Fluorescence detection of serum albumin with a turnover-based sensor utilizing Kemp elimination reaction. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2017, 27, 3464-3467.	2.2	13

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73	A protein-coupled fluorescent probe for organelle-specific imaging of Na ⁺ . <i>Sensors and Actuators B: Chemical</i> , 2018, 265, 575-581.	7.8	12
74	Development of Chemical Tools to Monitor and Control Isoaspartyl Peptide Methyltransferase Activity. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 153-157.	13.8	11
75	Development of a Novel Intraocular-Pressure-Lowering Therapy Targeting ATX. <i>Biological and Pharmaceutical Bulletin</i> , 2019, 42, 1926-1935.	1.4	11
76	A cytosolically localized far-red to near-infrared rhodamine-based fluorescent probe for calcium ions. <i>Analyst</i> , 2020, 145, 7736-7740.	3.5	11
77	Antibody Clicking as a Strategy to Modify Antibody Functionalities on the Surface of Targeted Cells. <i>Journal of the American Chemical Society</i> , 2020, 142, 15644-15648.	13.7	11
78	Selective Two-Step Labeling of Proteins with an Off/On Fluorescent Probe. <i>Chemistry - A European Journal</i> , 2011, 17, 14763-14771.	3.3	10
79	Development and validation of an improved dived electrophoresis gel assay cutter-plate system for enzymomics studies. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2019, 1867, 82-87.	2.3	10
80	Metabolic-Pathway-Oriented Screening Targeting S-Adenosyl-L-methionine Reveals the Epigenetic Remodeling Activities of Naturally Occurring Catechols. <i>Journal of the American Chemical Society</i> , 2020, 142, 21-26.	13.7	10
81	Discovery of an F-actin-binding small molecule serving as a fluorescent probe and a scaffold for functional probes. <i>Science Advances</i> , 2021, 7, eabg8585.	10.3	10
82	Development of ratiometric carbohydrate sensor based on boron dipyrromethene (BODIPY) scaffold. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2019, 29, 126684.	2.2	9
83	Detection of NAD(P)H-dependent enzyme activity by time-domain ratiometry of terbium luminescence. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2016, 26, 2314-2317.	2.2	8
84	Discovery of a pyruvylated peptide-metabolizing enzyme using a fluorescent substrate-based protein discovery technique. <i>Chemical Communications</i> , 2016, 52, 4377-4380.	4.1	7
85	Fluorometric assay of integrin activity with a small-molecular probe that senses the binding site microenvironment. <i>Chemical Communications</i> , 2014, 50, 15894-15896.	4.1	6
86	Identification of Lung Inflammation-Related Elevation of Acylamino Acid Releasing Enzyme (APEH) Activity Using an Enzymomics Approach. <i>Chemical and Pharmaceutical Bulletin</i> , 2016, 64, 1533-1538.	1.3	5
87	A Method to Rapidly Induce Organelle-Specific Molecular Activities and Membrane Tethering. <i>Methods in Molecular Biology</i> , 2014, 1174, 231-245.	0.9	5
88	Molecular design of near-infrared (NIR) fluorescent probes targeting exopeptidase and application for detection of dipeptidyl peptidase 4 (DPP-4) activity. <i>RSC Chemical Biology</i> , 2022, 3, 859-867.	4.1	5
89	Potential of Enzymomics Methodologies to Characterize Disease-Related Protein Functions. <i>Chemical and Pharmaceutical Bulletin</i> , 2017, 65, 605-610.	1.3	4
90	Separation-Based Enzymomics Assay for the Discovery of Altered Peptide-Metabolizing Enzymatic Activities in Biosamples. <i>Analytical Chemistry</i> , 2019, 91, 11497-11501.	6.5	4

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91	Establishment of live-cell-based coupled assay system for identification of compounds to modulate metabolic activities of cells. <i>Cell Reports</i> , 2021, 36, 109311.	6.4	4
92	Rapid imaging of lung cancer using a red fluorescent probe to detect dipeptidyl peptidase 4 and puromycin-sensitive aminopeptidase activities. <i>Scientific Reports</i> , 2022, 12, .	3.3	4
93	Meeting Proceedings ICBS2016â€”Translating the Power of Chemical Biology to Clinical Advances. <i>ACS Chemical Biology</i> , 2017, 12, 869-877.	3.4	2
94	Chemical toolbox for â€˜liveâ€™ biochemistry to understand enzymatic functions in living systems. <i>Journal of Biochemistry</i> , 2019, 167, 139-149.	1.7	2
95	Development of a platform for activatable fluorescent substrates of glucose transporters (GLUTs). <i>Bioorganic and Medicinal Chemistry</i> , 2019, 27, 2122-2126.	3.0	2
96	Development of Chemical Tools to Monitor and Control Isoaspartyl Peptide Methyltransferase Activity. <i>Angewandte Chemie</i> , 2017, 129, 159-163.	2.0	1
97	Synthesis of practical red fluorescent probe for cytoplasmic calcium ions with greatly improved cell-membrane permeability. <i>Data in Brief</i> , 2017, 12, 351-357.	1.0	1