Toru Komatsu

List of Publications by Citations

97 papers	4,445 citations	37 h-index	65 g-index
106 ext. papers	5,016 ext. citations	8.8 avg, IF	5.19 L-index

#	Paper	IF	Citations
97	Development of a highly selective fluorescence probe for hydrogen sulfide. *Journal of the American Chemical Society*, **2011**, 133, 18003-5	16.4	550
96	Development of a highly sensitive fluorescence probe for hydrogen peroxide. *Journal of the American Chemical Society*, **2011**, 133, 10629-37	16.4	284
95	Development of azo-based fluorescent probes to detect different levels of hypoxia. *Angewandte Chemie - International Edition*, **2013**, 52, 13028-32	16.4	204
94	Development of a far-red to near-infrared fluorescence probe for calcium ion and its application to multicolor neuronal imaging. *Journal of the American Chemical Society*, **2011**, 133, 14157-9	16.4	160
93	Development of an Azo-Based Photosensitizer Activated under Mild Hypoxia for Photodynamic Therapy. *Journal of the American Chemical Society*, **2017**, 139, 13713-13719	16.4	142
92	Design and synthesis of highly sensitive fluorogenic substrates for glutathione S-transferase and application for activity imaging in living cells. *Journal of the American Chemical Society*, **2008**, 130, 14533-43	16.4	131
91	Development of a fluorescein analogue, TokyoMagenta, as a novel scaffold for fluorescence probes in red region. *Chemical Communications*, **2011**, 47, 4162-4	5.8	130
90	A reversible near-infrared fluorescence probe for reactive oxygen species based on Te-rhodamine. *Chemical Communications*, **2012**, 48, 3091-3	5.8	127
89	Organelle-specific, rapid induction of molecular activities and membrane tethering. *Nature Methods* , **2010**, 7, 206-8	21.6	110
88	Real-time measurements of protein dynamics using fluorescence activation-coupled protein labeling method. *Journal of the American Chemical Society*, **2011**, 133, 6745-51	16.4	108
87	Design strategy for a near-infrared fluorescence probe for matrix metalloproteinase utilizing highly cell permeable boron dipyrromethene. *Journal of the American Chemical Society*, **2012**, 134, 13730-7	16.4	102
86	Highly activatable and environment-insensitive optical highlighters for selective spatiotemporal imaging of target proteins. *Journal of the American Chemical Society*, **2012**, 134, 11153-60	16.4	98
85	An Activatable Photosensitizer Targeted to □Glutamyltranspeptidase. *Angewandte Chemie - International Edition*, **2017**, 56, 10418-10422	16.4	95
84	Reversible off-on fluorescence probe for hypoxia and imaging of hypoxia-normoxia cycles in live cells. *Journal of the American Chemical Society*, **2012**, 134, 19588-91	16.4	95
83	Design and synthesis of an enzyme activity-based labeling molecule with fluorescence spectral change. *Journal of the American Chemical Society*, **2006**, 128, 15946-7	16.4	93
82	Development of a Series of Practical Fluorescent Chemical Tools To Measure pH Values in Living Samples. *Journal of the American Chemical Society*, **2018**, 140, 5925-5933	16.4	88
81	Selective ablation of □galactosidase-expressing cells with a rationally designed activatable photosensitizer. *Angewandte Chemie - International Edition*, **2014**, 53, 6772-5	16.4	85

80	Development of a series of near-infrared dark quenchers based on Si-rhodamines and their application to fluorescent probes. *Journal of the American Chemical Society*, **2015**, 137, 4759-65	16.4	76
79	A Water-Soluble Mechanochromic Luminescent Pyrene Derivative Exhibiting Recovery of the Initial Photoluminescence Color in a High-Humidity Environment. *Advanced Functional Materials*, **2013**, 23, 5277-5284	15.6	71
78	Boron dipyrromethene as a fluorescent caging group for single-photon uncaging with long-wavelength visible light. *ACS Chemical Biology*, **2014**, 9, 2242-6	4.9	70
77	Covalent attachment of mechanoresponsive luminescent micelles to glasses and polymers in aqueous conditions. *Journal of the American Chemical Society*, **2014**, 136, 4273-80	16.4	67
76	A Gd3+-based magnetic resonance imaging contrast agent sensitive to beta-galactosidase activity utilizing a receptor-induced magnetization enhancement (RIME) phenomenon. *Chemistry - A European Journal*, **2008**, 14, 987-95	4.8	65
75	Red fluorescent probe for monitoring the dynamics of cytoplasmic calcium ions. *Angewandte Chemie - International Edition*, **2013**, 52, 3874-7	16.4	63
74	Development of 2,6-carboxy-substituted boron dipyrromethene (BODIPY) as a novel scaffold of ratiometric fluorescent probes for live cell imaging. *Chemical Communications*, **2009**, 7015-7	5.8	60
73	Gliotoxin suppresses NF-B activation by selectively inhibiting linear ubiquitin chain assembly complex (LUBAC). *ACS Chemical Biology*, **2015**, 10, 675-81	4.9	58
72	Development of a reversible fluorescent probe for reactive sulfur species, sulfane sulfur, and its biological application. *Chemical Communications*, **2017**, 53, 1064-1067	5.8	55
71	New class of bioluminogenic probe based on bioluminescent enzyme-induced electron transfer: BioLeT. *Journal of the American Chemical Society*, **2015**, 137, 4010-3	16.4	55
70	Discovery and Mechanistic Characterization of Selective Inhibitors of HS-producing Enzyme: 3-Mercaptopyruvate Sulfurtransferase (3MST) Targeting Active-site Cysteine Persulfide. *Scientific Reports*, **2017**, 7, 40227	4.9	51
69	Rational design of boron dipyrromethene (BODIPY)-based photobleaching-resistant fluorophores applicable to a protein dynamics study. *Chemical Communications*, **2011**, 47, 10055-7	5.8	51
68	Enzyme-Loaded Polyion Complex Vesicles as in Vivo Nanoreactors Working Sustainably under the Blood Circulation: Characterization and Functional Evaluation. *Biomacromolecules*, **2017**, 18, 1189-1196	6.9	48
67	Rapid and sensitive detection of early esophageal squamous cell carcinoma with fluorescence probe targeting dipeptidylpeptidase IV. *Scientific Reports*, **2016**, 6, 26399	4.9	47
66	Protein-Coupled Fluorescent Probe To Visualize Potassium Ion Transition on Cellular Membranes. *Analytical Chemistry*, **2016**, 88, 2693-700	7.8	45
65	Development of hypoxia-sensitive Gd3+-based MRI contrast agents. *Bioorganic and Medicinal Chemistry Letters*, **2012**, 22, 2798-802	2.9	45
64	Development of a Sensitive Bioluminogenic Probe for Imaging Highly Reactive Oxygen Species in Living Rats. *Angewandte Chemie - International Edition*, **2015**, 54, 14768-71	16.4	45
63	Near-infrared fluorescence probes for enzymes based on binding affinity modulation of squarylium dye scaffold. *Analytical Chemistry*, **2012**, 84, 4404-10	7.8	43

62	Analysis of chemical equilibrium of silicon-substituted fluorescein and its application to develop a scaffold for red fluorescent probes. *Analytical Chemistry*, **2015**, 87, 9061-9	7.8	41
61	Establishment of Molecular Design Strategy To Obtain Activatable Fluorescent Probes for Carboxypeptidases. *Journal of the American Chemical Society*, **2018**, 140, 1767-1773	16.4	41
60	Evaluation of enzymatic activities in living systems with small-molecular fluorescent substrate probes. *Analytical Sciences*, **2015**, 31, 257-65	1.7	34
59	Fluorescence probe for lysophospholipase C/NPP6 activity and a potent NPP6 inhibitor. *Journal of the American Chemical Society*, **2011**, 133, 12021-30	16.4	33
58	Red fluorescent scaffold for highly sensitive protease activity probes. *Bioorganic and Medicinal Chemistry Letters*, **2012**, 22, 3908-11	2.9	32
57	The glycerophospho metabolome and its influence on amino acid homeostasis revealed by brain metabolomics of GDE1(-/-) mice. *Chemistry and Biology*, **2010**, 17, 831-40		31
56	Development of a highly selective fluorescence probe for alkaline phosphatase. *Bioorganic and Medicinal Chemistry Letters*, **2011**, 21, 5088-91	2.9	30
55	Development of Azo-Based Fluorescent Probes to Detect Different Levels of Hypoxia. *Angewandte Chemie*, **2013**, 125, 13266-13270	3.6	29
54	Development of an Azoreductase-based Reporter System with Synthetic Fluorogenic Substrates. *ACS Chemical Biology*, **2017**, 12, 558-563	4.9	28
53	Thermal or mechanical stimuli-induced photoluminescence color change of a molecular assembly composed of an amphiphilic anthracene derivative in water. *Chemistry - A European Journal*, **2014**, 20, 10397-403	4.8	28
52	Development of a potassium ion-selective fluorescent sensor based on 3-styrylated BODIPY. *Bioorganic and Medicinal Chemistry Letters*, **2011**, 21, 6090-3	2.9	28
51	Diced electrophoresis gel assay for screening enzymes with specified activities. *Journal of the American Chemical Society*, **2013**, 135, 6002-5	16.4	25
50	Synthesis of unsymmetrical Si-rhodamine fluorophores and application to a far-red to near-infrared fluorescence probe for hypoxia. *Chemical Communications*, **2018**, 54, 6939-6942	5.8	23
49	Design and Synthesis of an Activatable Photoacoustic Probe for Hypochlorous Acid. *Analytical Chemistry*, **2019**, 91, 9086-9092	7.8	21
48	Red-Shifted Fluorogenic Substrate for Detection of lacZ-Positive Cells in Living Tissue with Single-Cell Resolution. *Angewandte Chemie - International Edition*, **2018**, 57, 15702-15706	16.4	21
47	Detection of NAD(P)H-dependent enzyme activity with dynamic luminescence quenching of terbium complexes. *Chemical Communications*, **2015**, 51, 8319-22	5.8	20
46	Development of practical red fluorescent probe for cytoplasmic calcium ions with greatly improved cell-membrane permeability. *Cell Calcium*, **2016**, 60, 256-65	4	20
45	Artificial Ligands of Streptavidin (ALiS): Discovery, Characterization, and Application for Reversible Control of Intracellular Protein Transport. *Journal of the American Chemical Society*, **2015**, 137, 10464-7	16.4	19

44	A Fluorescent Probe for Rapid, High-Contrast Visualization of Folate-Receptor-Expressing Tumors In Vivo. *Angewandte Chemie - International Edition*, **2020**, 59, 6015-6020	16.4	19
43	Identification of tissue-restricted bioreaction suitable for in vivo targeting by fluorescent substrate library-based enzyme discovery. *Journal of the American Chemical Society*, **2015**, 137, 12187-90	16.4	17
42	TokyoGreen derivatives as specific and practical fluorescent probes for UDP-glucuronosyltransferase (UGT) 1A1. *Chemical Communications*, **2013**, 49, 3101-3	5.8	17
41	Toward total synthesis of cell function: Reconstituting cell dynamics with synthetic biology. *Science Signaling*, **2016**, 9, re1	8.8	15
40	Design strategy for germanium-rhodamine based pH-activatable near-infrared fluorescence probes suitable for biological applications. *Communications Chemistry*, **2019**, 2,	6.3	15
39	Discovery of Cell-Type-Specific and Disease-Related Enzymatic Activity Changes via Global Evaluation of Peptide Metabolism. *Journal of the American Chemical Society*, **2017**, 139, 3465-3472	16.4	14
38	Red Fluorescence Probe Targeted to Dipeptidylpeptidase-IV for Highly Sensitive Detection of Esophageal Cancer. *Bioconjugate Chemistry*, **2019**, 30, 1055-1060	6.3	14
37	Multiplexed single-molecule enzyme activity analysis for counting disease-related proteins in biological samples. *Science Advances*, **2020**, 6, eaay0888	14.3	14
36	Unexpected Photo-instability of 2,6-Sulfonamide-Substituted BODIPYs and Its Application to Caged GABA. *ChemBioChem*, **2016**, 17, 1233-40	3.8	12
35	Development of Chemical Tools to Monitor and Control Isoaspartyl Peptide Methyltransferase Activity. *Angewandte Chemie - International Edition*, **2017**, 56, 153-157	16.4	11
34	Covalent Self-Labeling of Tagged Proteins with Chemical Fluorescent Dyes in BY-2 Cells and Arabidopsis Seedlings. *Plant Cell*, **2020**, 32, 3081-3094	11.6	11
33	Fluorescence detection of serum albumin with a turnover-based sensor utilizing Kemp elimination reaction. *Bioorganic and Medicinal Chemistry Letters*, **2017**, 27, 3464-3467	2.9	10
32	High-throughput single-molecule bioassay using micro-reactor arrays with a concentration gradient of target molecules. *Lab on A Chip*, **2018**, 18, 2849-2853	7.2	10
31	A design strategy for small molecule-based targeted MRI contrast agents: their application for detection of atherosclerotic plaques. *Organic and Biomolecular Chemistry*, **2014**, 12, 8611-8	3.9	10
30	Development of a Sensitive Bioluminogenic Probe for Imaging Highly Reactive Oxygen Species in Living Rats. *Angewandte Chemie*, **2015**, 127, 14981-14984	3.6	10
29	Rapid detection of metastatic lymph nodes of colorectal cancer with a gamma-glutamyl transpeptidase-activatable fluorescence probe. *Scientific Reports*, **2018**, 8, 17781	4.9	10
28	Selective two-step labeling of proteins with an off/on fluorescent probe. *Chemistry - A European Journal*, **2011**, 17, 14763-71	4.8	9
27	Rational Design of a Near-infrared Fluorescence Probe for Ca Based on Phosphorus-substituted Rhodamines Utilizing Photoinduced Electron Transfer. *Chemistry - an Asian Journal*, **2020**, 15, 524-530	4.5	9

26	Design of spontaneously blinking fluorophores for live-cell super-resolution imaging based on quantum-chemical calculations. *Chemical Communications*, **2020**, 56, 13173-13176	5.8	8
25	Discovery of a pyruvylated peptide-metabolizing enzyme using a fluorescent substrate-based protein discovery technique. *Chemical Communications*, **2016**, 52, 4377-80	5.8	7
24	Development of a Novel Intraocular-Pressure-Lowering Therapy Targeting ATX. *Biological and Pharmaceutical Bulletin*, **2019**, 42, 1926-1935	2.3	7
23	Red Fluorescent Probe for Monitoring the Dynamics of Cytoplasmic Calcium Ions. *Angewandte Chemie*, **2013**, 125, 3966-3969	3.6	7
22	A cytosolically localized far-red to near-infrared rhodamine-based fluorescent probe for calcium ions. *Analyst, The*, **2020**, 145, 7736-7740	5	7
21	Development of ratiometric carbohydrate sensor based on boron dipyrromethene (BODIPY) scaffold. *Bioorganic and Medicinal Chemistry Letters*, **2019**, 29, 126684	2.9	6
20	A protein-coupled fluorescent probe for organelle-specific imaging of Na+. *Sensors and Actuators B: Chemical*, **2018**, 265, 575-581	8.5	6
19	Development and validation of an improved diced electrophoresis gel assay cutter-plate system for enzymomics studies. *Biochimica Et Biophysica Acta - Proteins and Proteomics*, **2019**, 1867, 82-87	4	6
18	Rapidly rendering cells phagocytic through a cell surface display technique and concurrent Rac activation. *Science Signaling*, **2014**, 7, rs4	8.8	6
17	Antibody Clicking as a Strategy to Modify Antibody Functionalities on the Surface of Targeted Cells. *Journal of the American Chemical Society*, **2020**, 142, 15644-15648	16.4	6
16	Identification of Lung Inflammation-Related Elevation of Acylamino Acid Releasing Enzyme (APEH) Activity Using an Enzymomics Approach. *Chemical and Pharmaceutical Bulletin*, **2016**, 64, 1533-1538	1.9	5
15	Fluorometric assay of integrin activity with a small-molecular probe that senses the binding site microenvironment. *Chemical Communications*, **2014**, 50, 15894-6	5.8	5
14	Detection of NAD(P)H-dependent enzyme activity by time-domain ratiometry of terbium luminescence. *Bioorganic and Medicinal Chemistry Letters*, **2016**, 26, 2314-7	2.9	5
13	Potential of Enzymomics Methodologies to Characterize Disease-Related Protein Functions. *Chemical and Pharmaceutical Bulletin*, **2017**, 65, 605-610	1.9	3
12	A method to rapidly induce organelle-specific molecular activities and membrane tethering. *Methods in Molecular Biology*, **2014**, 1174, 231-45	1.4	3
11	Separation-Based Enzymomics Assay for the Discovery of Altered Peptide-Metabolizing Enzymatic Activities in Biosamples. *Analytical Chemistry*, **2019**, 91, 11497-11501	7.8	2
10	Meeting Proceedings ICBS2016-Translating the Power of Chemical Biology to Clinical Advances. *ACS Chemical Biology*, **2017**, 12, 869-877	4.9	1
9	Development of Chemical Tools to Monitor and Control Isoaspartyl Peptide Methyltransferase Activity. *Angewandte Chemie*, **2017**, 129, 159-163	3.6	1

8	Synthesis of practical red fluorescent probe for cytoplasmic calcium ions with greatly improved cell-membrane permeability. *Data in Brief*, **2017**, 12, 351-357	1.2	1
7	Discovery of an F-actin-binding small molecule serving as a fluorescent probe and a scaffold for functional probes. *Science Advances*, **2021**, 7, eabg8585	14.3	1
6	Metabolic-Pathway-Oriented Screening Targeting -Adenosyl-l-methionine Reveals the Epigenetic Remodeling Activities of Naturally Occurring Catechols. *Journal of the American Chemical Society*, **2020**, 142, 21-26	16.4	1
5	Chemical toolbox for LiveUbiochemistry to understand enzymatic functions in living systems. *Journal of Biochemistry*, **2020**, 167, 139-149	3.1	0
4	A Fluorescent Probe for Rapid, High-Contrast Visualization of Folate-Receptor-Expressing Tumors In Vivo. *Angewandte Chemie*, **2020**, 132, 6071-6076	3.6	0
3	Establishment of live-cell-based coupled assay system for identification of compounds to modulate metabolic activities of cells. *Cell Reports*, **2021**, 36, 109311	10.6	0
2	Development of a platform for activatable fluorescent substrates of glucose transporters (GLUTs). *Bioorganic and Medicinal Chemistry*, **2019**, 27, 2122-2126	3.4	0
1	Diced electrophoresis gel assay for screening enzymes with specified activities **2015**, 59, 115-117		