Madoka Takai

List of Publications by Year
in descending order

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103	2,369	201575	223716
papers	citations	27 h-index	46 g-index

109	109	109	3086
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Significance of Antibody Orientation Unraveled: Well-Oriented Antibodies Recorded High Binding Affinity. Analytical Chemistry, 2011, 83, 1969-1976.	3.2	183
2	Protein adsorption and cell adhesion on cationic, neutral, and anionic 2-methacryloyloxyethyl phosphorylcholine copolymer surfaces. Biomaterials, 2009, 30, 4930-4938.	5.7	141
3	Surface tethering of phosphorylcholine groups onto poly(dimethylsiloxane) through swellingâ€“deswelling methods with phospholipids moiety containing ABA-type block copolymers. Biomaterials, 2008, 29, 1367-1376.	5.7	121
4	Hydration of phosphorylcholine groups attached to highly swollen polymer hydrogels studied by thermal analysis. Polymer, 2008, 49, 4652-4657.	1.8	120
5	Super-hydrophilic silicone hydrogels with interpenetrating poly(2-methacryloyloxyethyl) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 5	5.7	108
6	Polymer Nanoparticles Covered with Phosphorylcholine Groups and Immobilized with Antibody for High-Affinity Separation of Proteins. Biomacromolecules, 2008, 9, 828-833.	2.6	97
7	Role of Interfacial Water in Protein Adsorption onto Polymer Brushes as Studied by SFG Spectroscopy and QCM. Journal of Physical Chemistry C, 2015, 119, 17193-17201.	1.5	84
8	Bioinspired interface for nanobiodevices based on phospholipid polymer chemistry. Journal of the Royal Society Interface, 2009, 6, S279-91.	1.5	75
9	Synthesis of sequence-controlled copolymers from extremely polar and apolar monomers by living radical polymerization and their phase-separated structures. Journal of Polymer Science Part A, 2005, 43, 6073-6083.	2.5	74
10	Rapid Development of Hydrophilicity and Protein Adsorption Resistance by Polymer Surfaces Bearing Phosphorylcholine and Naphthalene Groups. Langmuir, 2008, 24, 10340-10344.	1.6	69
11	A microsensing system for the in vivo real-time detection of local drug kinetics. Nature Biomedical Engineering, 2017, 1, 654-666.	11.6	68
12	Cell adhesion on phase-separated surface of block copolymer composed of poly(2-methacryloyloxyethyl phosphorylcholine) and poly(dimethylsiloxane). Biomaterials, 2009, 30, 5330-5340.	5.7	67
13	Bioconjugated Phospholipid Polymer Biointerface for Enzyme-Linked Immunosorbent Assay. Biomacromolecules, 2008, 9, 403-407.	2.6	58
14	Nonâ€Osmotic Hydrogels: A Rational Strategy for Safely Degradable Hydrogels. Angewandte Chemie - International Edition, 2016, 55, 9282-9286.	7.2	58
15	Acoustic formation of multicellular tumor spheroids enabling on-chip functional and structural imaging. Lab on A Chip, 2018, 18, 2466-2476.	3.1	51
16	Healthcare Chip for Checking Health Condition from Analysis of Trace Blood Collected by Painless Needle. Japanese Journal of Applied Physics, 2003, 42, 3722-3727.	0.8	46
17	Suppression of Protein Adsorption on a Charged Phospholipid Polymer Interface. Biomacromolecules, 2009, 10, 267-274.	2.6	44
18	Phospholipid Polymer Biointerfaces for Lab-on-a-Chip Devices. Annals of Biomedical Engineering, 2010, 38, 1938-1953.	1.3	42

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19	Stable surface coating of silicone elastomer with phosphorylcholine and organosilane copolymer with cross-linking for repelling proteins. Colloids and Surfaces B: Biointerfaces, 2015, 134, 384-391.	2.5	40
20	Quick and simple modification of a poly(dimethylsiloxane) surface by optimized molecular design of the anti-biofouling phospholipid copolymer. Soft Matter, 2011, 7, 2968.	1.2	39
21	Lectin-Tagged Fluorescent Polymeric Nanoparticles for Targeting of Sialic Acid on Living Cells. Biomacromolecules, 2014, 15, 2012-2018.	2.6	39
22	Polymer brush biointerfaces for highly sensitive biosensors that preserve the structure and function of immobilized proteins. Sensors and Actuators B: Chemical, 2015, 216, 428-433.	4.0	39
23	â€œNanoâ€• An Emerging Avenue in Electrochemical Detection of Neurotransmitters. ACS Chemical Neuroscience, 2020, 11, 4024-4047.	1.7	39
24	Ratiometric fluorescence imaging of cell surface pH by poly(ethylene glycol)-phospholipid conjugated with fluorescein isothiocyanate. Scientific Reports, 2017, 7, 17484.	1.6	34
25	Antibody immobilization to phospholipid polymer layer on gold substrate of quartz crystal microbalance immunosensor. Colloids and Surfaces B: Biointerfaces, 2007, 55, 164-172.	2.5	31
26	Simultaneous characterization of proteinâ€“material and cellâ€“protein interactions using dynamic QCM-D analysis on SAM surfaces. Biomaterials Science, 2016, 4, 989-997.	2.6	30
27	Protein adsorption behavior on reduced graphene oxide and boron-doped diamond investigated by electrochemical impedance spectroscopy. Carbon, 2019, 152, 354-362.	5.4	30
28	Spontaneously forming hydrogel from water-soluble random- and block-type phospholipid polymers. Biomaterials, 2005, 26, 6853-6862.	5.7	28
29	Silver-loaded carboxymethyl cellulose nonwoven sheet with controlled counterions for infected wound healing. Carbohydrate Polymers, 2022, 286, 119289.	5.1	26
30	Influence of molecular weight of PEG chain on interaction between streptavidin and biotinâ€“PEG-conjugated phospholipids studied with QCM-D. Acta Biomaterialia, 2016, 30, 135-143.	4.1	22
31	Stabilization of phospholipid polymer surface with three-dimensional nanometer-scaled structure for highly sensitive immunoassay. Colloids and Surfaces B: Biointerfaces, 2010, 77, 263-269.	2.5	19
32	Zone electrophoresis of proteins in poly(dimethylsiloxane) (PDMS) microchip coated with physically adsorbed amphiphilic phospholipid polymer. Microfluidics and Nanofluidics, 2013, 14, 951-959.	1.0	19
33	Effect of the distribution of adsorbed proteins on cellular adhesion behaviors using surfaces of nanoscale phase-reversed amphiphilic block copolymers. Acta Biomaterialia, 2014, 10, 2988-2995.	4.1	18
34	Nano-structural comparison of 2-methacryloyloxyethyl phosphorylcholine- and ethylene glycol-based surface modification for preventing protein and cell adhesion. Colloids and Surfaces B: Biointerfaces, 2017, 159, 655-661.	2.5	16
35	Rapid and highly efficient capture and release of cancer cells using polymeric microfibers immobilized with enzyme-cleavable peptides. Acta Biomaterialia, 2018, 67, 32-41.	4.1	16
36	High Dye-Loaded and Thin-Shell Fluorescent Polymeric Nanoparticles for Enhanced FRET Imaging of Protein-Specific Sialylation on the Cell Surface. Analytical Chemistry, 2020, 92, 13271-13280.	3.2	16

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37	Redox phospholipid polymer microparticles as doubly functional polymer support for immobilization of enzyme oxidase. Colloids and Surfaces B: Biointerfaces, 2013, 102, 857-863.	2.5	15
38	Cellular Response to Non-contacting Nanoscale Sublayer: Cells Sense Several Nanometer Mechanical Property. ACS Applied Materials & Interfaces, 2016, 8, 10710-10716.	4.0	14
39	Rapid multiplex microfiber-based immunoassay for anti-MERS-CoV antibody detection. Sensing and Bio-Sensing Research, 2019, 26, 100304.	2.2	14
40	Study on Bacterial Antiadhesiveness of Stiffness and Thickness Tunable Cross-Linked Phospholipid Copolymer Thin-Film. ACS Applied Bio Materials, 2020, 3, 1079-1087.	2.3	14
41	Phosphorylcholine Group-immobilized Surface Prepared on Polydimethylsiloxane Membrane by In Situ Reaction for Its Reduced Biofouling. Nanobiotechnology, 2007, 3, 83-88.	1.2	13
42	Slope-Dependent Cell Motility Enhancements at the Walls of PEG-Hydrogel Microgroove Structures. Langmuir, 2015, 31, 10215-10222.	1.6	13
43	Differences in Three-Dimensional Geometric Recognition by Non-Cancerous and Cancerous Epithelial Cells on Microgroove-Based Topography. Scientific Reports, 2017, 7, 4244.	1.6	13
44	Nonâ€Osmotic Hydrogels: A Rational Strategy for Safely Degradable Hydrogels. Angewandte Chemie, 2016, 128, 9428-9432.	1.6	12
45	An approach to the research on ion and water properties in the interphase between the plasma membrane and bulk extracellular solution. Journal of Physiological Sciences, 2017, 67, 439-445.	0.9	12
46	Synthesis of single-walled carbon nanotubes in mesoporous silica film and their field emission property. Applied Physics A: Materials Science and Processing, 2006, 84, 247-250.	1.1	11
47	Phospholipid polymer hydrogel formed by the photodimerization of cinnamoyl groups in the polymer side chain. Journal of Applied Polymer Science, 2007, 104, 44-50.	1.3	11
48	Development of Recycling System of Precious Metals and Rare Metals Using DMSO Solvent Containing CuBr₂. Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals, 2015, 79, 41-48.	0.2	11
49	Fabrication and assessment of an electrospun polymeric microfiber-based platform under bulk flow conditions with rapid and efficient antigen capture. Analyst, The, 2018, 143, 865-873.	1.7	11
50	Surface functionalization of carbon-based sensors with biocompatible polymer to enable electrochemical measurement in protein-rich environment. Sensors and Actuators B: Chemical, 2020, 309, 127758.	4.0	11
51	Hydrophilic surfaces from simple dip-coating method: amphiphilic block copolymers with zwitterionic group form antifouling coatings under atmospheric conditions. Materials Advances, 2020, 1, 2737-2744.	2.6	10
52	Fast and selective cell isolation from blood sample by microfiber fabric system with vacuum aspiration. Science and Technology of Advanced Materials, 2016, 17, 807-815.	2.8	9
53	Healthcare Chip for Home Medical Diagnosis. , 2007, , .		8
54	Significant Heterogeneity and Slow Dynamics of the Unfolded Ubiquitin Detected by the Line Confocal Method of Single-Molecule Fluorescence Spectroscopy. Journal of Physical Chemistry B, 2016, 120, 8818-8829.	1.2	8

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55	Structure and properties of thermoresponsive gels formed by RAFT polymerization: effect of the RAFT agent content. Polymer Journal, 2020, 52, 1407-1412.	1.3	8
56	Enhanced Stability of Lipid Structures by Dip-Pen Nanolithography on Block-Type MPC Copolymer. Molecules, 2020, 25, 2768.	1.7	8
57	Ultrasound-Based Scaffold-Free Core-Shell Multicellular Tumor Spheroid Formation. Micromachines, 2021, 12, 329.	1.4	8
58	Single cell organization and cell cycle characterization of DNA stained multicellular tumor spheroids. Scientific Reports, 2021, 11, 17076.	1.6	8
59	Positive regulation of the enzymatic activity of gastric H + ,K + -ATPase by sialylation of its Î²-subunit. Biochimica Et Biophysica Acta - Biomembranes, 2016, 1858, 1228-1235.	1.4	7
60	Protein adsorption behavior in nanoscale phase-separated polymer coatings prepared using poly(2-methacrylolyoxyethyl phosphorylcholine)-containing amphiphilic block copolymers. European Polymer Journal, 2020, 135, 109885.	2.6	7
61	Fluorescent polymeric nanoparticle for ratiometric temperature sensing allows real-time monitoring in influenza virus-infected cells. Journal of Colloid and Interface Science, 2021, 601, 825-832.	5.0	7
62	Characterization of a self-oscillating polymer with periodic soluble-insoluble changes. Journal of Polymer Science, Part B: Polymer Physics, 2007, 45, 1578-1588.	2.4	6
63	Formation of reversed nanoscale phase-separated structures using poly(2-methacryloyloxyethyl) Tj ETQq1 1 0.784314 rgBT /Overlock 1	1.8	6
64	Control of Protein Adsorption to Cyclo Olefin Polymer by the Hofmeister Effect. Journal of Pharmaceutical Sciences, 2019, 108, 1686-1691.	1.6	6
65	Influence of cell adhesive molecules attached onto PEG-lipid-modified fluid surfaces on cell adhesion. Colloids and Surfaces B: Biointerfaces, 2019, 175, 375-383.	2.5	6
66	Unique Cancer Migratory Behaviors in Confined Spaces of Microgroove Topography with Acute Wall Angles. Scientific Reports, 2020, 10, 6110.	1.6	6
67	Evaluation of bacterial adhesion strength on phospholipid copolymer films with antibacterial ability using microfluidic shear devices. Journal of Materials Chemistry B, 2021, 9, 4480-4487.	2.9	6
68	A Modifiable, Spontaneously Formed Polymer Gel with Zwitterionic and N-Hydroxysuccinimide Moieties for an Enzymatic Biofuel Cell. ACS Applied Polymer Materials, 2021, 3, 631-639.	2.0	6
69	Design of biointerfaces composed of soft materials using controlled radical polymerizations. Journal of Materials Chemistry B, 2022, 10, 1473-1485.	2.9	6
70	Control of surface modification uniformity inside small-diameter polyethylene/poly(vinyl acetate) composite tubing prepared with supercritical carbon dioxide. Journal of Materials Chemistry, 2010, 20, 4897.	6.7	5
71	Analysis of the Changes in Expression Levels of Sialic Acid on Influenza-Virus-Infected Cells Using Lectin-Tagged Polymeric Nanoparticles. Frontiers in Microbiology, 2016, 7, 1147.	1.5	5
72	Poly(2-aminoethyl methacrylate)-based polyampholyte brush surface with carboxylic groups to improve blood compatibility. Journal of Biomaterials Science, Polymer Edition, 2020, 31, 679-693.	1.9	4

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73	Imaging the Nanophase-separated Structure of Block Copolymer Thin Film by Atomic Force Microscopy in Aqueous Solution. Chemistry Letters, 2020, 49, 641-644.	0.7	4
74	Microchip Immunoassay Using High Density Bioconjugation on the Phospholipid Polymer Interface. Transactions of the Materials Research Society of Japan, 2008, 33, 787-790.	0.2	4
75	pH-Responsive Water-Soluble Polymer Carriers for Cell-Selective Metabolic Sialylation Labeling. Analytical Chemistry, 2021, 93, 15420-15429.	3.2	4
76	The effects of nanophase-separated amphiphilic domains on cell adhesion. Transactions of the Materials Research Society of Japan, 2011, 36, 577-580.	0.2	3
77	Colorimetric microchip assay using our own whole blood collected by a painless needle for home medical care. Analyst, The, 2013, 138, 6469.	1.7	3
78	Cell Adhesion and Migration on Thickness Gradient Bilayer Polymer Brush Surfaces: Effects of Properties of Polymeric Materials of the Underlayer. ACS Applied Materials & Interfaces, 2022, 14, 2605-2617.	4.0	3
79	Enzyme oxidase-immobilized phospholipid polymer microparticles for biofuel cell application. Transactions of the Materials Research Society of Japan, 2011, 36, 531-534.	0.2	2
80	Enhancement of Cell Adhesion on a Phosphorylcholine-Based Surface through the Interaction with DNA Mediated by Ca²⁺ Ions. Journal of Physical Chemistry B, 2016, 120, 12272-12278.	1.2	2
81	Highly sensitive and rapid biosensing on a three-dimensional polymer platform. Polymer Journal, 2018, 50, 847-855.	1.3	2
82	Electrospun Polymeric Microfiber Substrates for Rapid Protein and Cell-based Assays. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2018, 31, 65-69.	0.1	2
83	Study on polyethylene glycol cross-linker in peptide-conjugated antibody on efficiency of cell capture and release. Analytical Biochemistry, 2020, 602, 113790.	1.1	2
84	A Novel Interface for High-Sensitive Immunoassay Using Orientation Controlled Protein A and Non-biofouling Phospholipid Polymer Surface. Transactions of the Materials Research Society of Japan, 2009, 34, 205-208.	0.2	1
85	NONBIOFOULING SURFACES COVERED BY BIO-INSPIRED 2-METHACRYLOYLOXYETHYL PHOSPHORYLCHOLINE POLYMER BRUSH BY USE OF POLYMERIC PHOTOINIFERTER. Nano LIFE, 2012, 02, 1242003.	0.6	1
86	Strong Cationic Radical Initiatorâ€Based Design of a Thermoresponsive Hydrogel Showing Drastic Volume Transition. Macromolecular Chemistry and Physics, 2020, 221, 1900507.	1.1	1
87	Facile preparation of water-soluble multiwalled carbon nanotubes bearing phosphorylcholine groups for heat generation under near-infrared irradiation. Polymer Journal, 2021, 53, 1001-1009.	1.3	1
88	Quantum dots covered with pH responsive and biocompatible phospholipid polymer for trafficking in endocytosis process. Transactions of the Materials Research Society of Japan, 2011, 36, 265-268.	0.2	1
89	Micropatterned Biorecognition Surfaces on Nonbiofouling Polymer by Living Radical Photopolymerization for High Sensitivity Biosensing. Materials Research Society Symposia Proceedings, 2008, 1093, 10401.	0.1	0
90	New Nanocomposite Biomaterials Controlling Surface and Bulk Properties using Supercritical Carbon Dioxide. Materials Research Society Symposia Proceedings, 2008, 1097, 1.	0.1	0

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91	Design of Soft-Interface Materials for Highly Sensitive Bio-Sensing Devices. Materials Research Society Symposia Proceedings, 2014, 1599, 1.	0.1	0
92	Surface design for high-sensitivity micro-biosensor. , 2015, , .		0
93	Membrane-anchored ratiometric fluorescent probe forvisualizing the extracellular juxtamembrane pH. Proceedings for Annual Meeting of the Japanese Pharmacological Society, 2019, 92, JKP-13.	0.0	0
94	Super-hydrophilic silicone hydrogels composed of interpenetrating polymer networks with phospholipid polymer. Transactions of the Materials Research Society of Japan, 2009, 34, 193-196.	0.2	0
95	Continuous preparation of cytocompatible poly(2-methacryloyloxyethyl phosphorylcholine) microcapsule for cell immobilization using microfluidics. Transactions of the Materials Research Society of Japan, 2011, 36, 569-572.	0.2	0
96	Separation capability of proteins using microfluidic system with dendrimer modified surface. Transactions of the Materials Research Society of Japan, 2011, 36, 541-544.	0.2	0
97	Layer-by-Layer Building up of Redox Phospholipid Polymer Hydrogel Electrode for Biosensor. Transactions of the Materials Research Society of Japan, 2011, 36, 545-548.	0.2	0
98	Design of Biointerface Formed by the Biocompatible Polymer Films and Application to PDMS Microchip Electrophoresis. Membrane, 2012, 37, 189-194.	0.0	0
99	OS7-2-3 Biosensor based on direct electron transfer with titanium oxide nanofiber. The Proceedings of the Symposium on Micro-Nano Science and Technology, 2012, 2012.4, 21-22.	0.0	0
100	A microsensing system for the in vivo real-time monitoring of local drug kinetics. Proceedings for Annual Meeting of the Japanese Pharmacological Society, 2018, WCP2018, PO2-14-14.	0.0	0
101	Cell surface pH imaging using a membrane-anchored ratiometric fluorescence probe: Poly(ethylene) Tj ETQq1 1 0.784314 rgBT /Overl for Annual Meeting of the Japanese Pharmacological Society, 2019, 92, 2-S14-1.	0.0	0
102	Current Status and Future Prospects of Surface Modification and Coating Technology for Membrane Oxygenator. Membrane, 2019, 44, 299-305.	0.0	0
103	Development of Soft Interface Biomaterials from Data of Protein Adsorption and Cell Adhesion. Vacuum and Surface Science, 2022, 65, 21-26.	0.0	0